August 29, 2006

INVITATION FOR BID

Letter of Invitation
For FasTrak® Strategic Plan Improvement Project
Fabrication and Delivery of Sign Structures and Roadside Sign Panels

Dear Supplier:

The Bay Area Toll Authority (BATA) invites your firm to respond to this Invitation for Bid (IFB) for:

Fabrication and Delivery of Sign Structures and Roadside Sign Panels

BATA is soliciting bids for the fabrication and delivery of 11 highway sign structures and -208 sign panels. The project is part of the improvements described in BATA's FasTrak® Electronic Toll Collection Strategic Plan. The sign structures and sign panels fabricated and delivered under this IFB will be installed on the approaches to the seven state-owned toll bridges in the San Francisco Bay Area. The products manufactured under this IFB will be installed under separate construction packages to be issued by BATA in August 2006.

This letter, together with the Instructions to Bidders and Bidding Requirements, General Conditions, Special Conditions, Specifications, Plans, Bid and Reference Forms and General Conditions for BATA Purchase Orders comprise the IFB for this project. Responses to the IFB are to be submitted in accordance with the instructions stated herein.

Bid Submission

Interested bidders must submit their bids in sealed envelopes by 1:00 p.m. on Monday, September 25, 2006. **Bids received after that date and time will not be considered. All bids must be completed and submitted on the enclosed Bid Form, *Appendix B*, in order to be considered**. *Appendix C*, Reference Form, must be also submitted with the bid. Bidders who do not complete all appendices risk being found non-responsive.

BATA will compile a list of intended bidders for this IFB. To receive any addenda to this IFB, you must notify the Project Manager in writing of your intent to submit a bid (e-mail or fax is acceptable) at least two weeks prior to the due date for bids.

BATA Point of Contact

Bids and all inquiries relating to this IFB should be submitted to the Project Manager at the address shown below. For telephone inquiries, call (510) 817-5892. Email inquiries may

be directed to <sbaker@mtc.ca.gov>.

Stephen Baker, Project Manager
Metropolitan Transportation Commission
Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, California 94607-4700

Background/Project Description

There are seven state-owned toll bridges (Antioch, Benicia-Martinez, Carquinez, Richmond-San Rafael, Dumbarton, San Mateo Hayward and the San Francisco-Oakland Bay Bridge) that are owned and operated by the California Department of Transportation (Caltrans) in the San Francisco Bay Area. State-owned toll bridge operations and capital improvement projects are funded by toll revenues, which are administered by the BATA.

In June 2006, BATA adopted the FasTrak® Strategic Plan, which lays out a comprehensive strategy for the implementation of improvements for the FasTrak® program, including implementation of additional FasTrak®-only lanes and supporting infrastructure improvements, implementing a comprehensive marketing program to inform motorists of the benefits of the program, and increasing the ease for motorists to obtain a FasTrak® toll tag.

The plan proposes that a total of ten (10) new permanent FasTrak®-only lanes be added to all seven state-owned bridges, which will increase the total number of FasTrak®-only lanes on the state-owned bridges from approximately 25% presently to approximately 38% of total lanes. A key component of the lane and infrastructure plan includes installing improved signage at the toll plazas and preceding the toll plazas, which will include the installation of new sign structures and signs. This IFB is for the fabrication, delivery and storage of the sign structures and the roadside sign panels.

Bid Guaranty

Bids must be accompanied by a bid guaranty in the form of a cashier's check, a certified check, or a bid bond executed by an admitted surety insurer ("A" Rating or better), in the amount of 10% of the bid amount, payable to BATA. Such check or bond shall be given as a guaranty that the Bidder will, within ten (10) days of being requested to do so by BATA, enter into a contract and provide the required performance and payment bonds. If a Bidder's bond is furnished, it must conform to one of the forms provided with the bid documents. Formats for bid guarantees are included in this IFB as *Appendices E-1* and *E-2*.

If the Bidder to whom the work has been awarded refuses or fails to accept the purchase order and/or provide the required bonds within the specified time, the check shall be forfeited to BATA or the principal and surety on the bond shall be liable to BATA for the principal amount thereof in accordance with its terms. Bidder guarantees will be held until the contract has been finally executed, after which all Bidders' guarantees except any guarantees which have been forfeited, will be returned to the respective Bidders whose bids they accompany, but in no event

will Bidder's securities be held by BATA beyond one hundred twenty (120) days from the time set for receiving bids.

Minimum Qualifications

To be eligible to submit a bid, a bidder must have successfully furnished sign structures under a minimum of three (3) other commercial contracts similar in size and scope to the specifications listed in this IFB, exceeding one hundred thousand dollars ($100,000). Bidders will be required to verify these qualifications prior to the award of contract.

Specifications and Schedule

The specifications and schedule for this project are described in *Appendix A* to this IFB. Section III of this IFB, Special Conditions, also contains substantive requirements with which Bidders must fully comply with in order to guarantee responsiveness to this IFB.

The scope of work for this project includes the manufacture, fabrication inspection, testing, shipping, unloading, and stockpiling of overhead sign structures and roadside sign panels. The products manufactured under this IFB will be installed under separate construction packages to be issued by BATA in August 2006.

The contract will require that the selected Contractor work closely with and fully support the manufacturer providing the changeable message signs that will be incorporated into the FasTrak® Strategic Plan Improvement Project.

Sign panels and sign structures shall be delivered to the storage site no later than 100 calendar days following the issuance by BATA of a Purchase Order (PO).

Bid Evaluation

Bids will be initially evaluated for responsiveness and adherence to minimum qualifications. Quality and customer service are of the highest importance. In order to ensure superior service, references will be checked, and bidders may be required to provide additional information verifying their experience.

A contract, if awarded, will be to the responsible bidder submitting the lowest responsive bid, as indicated in the "Total" space on the *Appendix B,* Bid Form.

Performance and Labor & Materials Payment Bonds

Prior to contract award, BATA will require both a Performance and Labor & Materials Payment Bond, issued by a surety acceptable to BATA. Each bond shall be in a sum not less than 100% of the total bid amount, as described in Section III.G, Bonding, in the enclosed IFB.

Bidder Selection Timetable

Friday, September 8, 2006	Deadline for requests for clarification or exception
Monday, September 25, 2006, 1:00 p.m.	Closing date & time for receipt of bids & bid opening.
Wednesday, October 4, 2006	BATA Oversight Committee consideration of recommendation for award
Wednesday, October 11, 2006 (approximate)	Issuance of Purchase Order

General Conditions

BATA reserves the right to award a contract or to reject all bids.

A signed BATA Purchase Order (refer to *Appendix D* for General Conditions) mailed or delivered to a particular bidder shall constitute a binding contract, which incorporates this IFB and its addenda, if any, and all documents referenced herein, any deviations from the specifications expressly accepted by BATA, and all terms and conditions of the Purchase Order (PO).

Authority to Commit BATA

The Executive Director of BATA will recommend the successful bidder to the BATA Oversight Committee, which will commit BATA to the expenditure of funds in connection with this IFB.

Thank you for your participation.

Sincerely,

Steve Heminger
Executive Director

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INVITATION FOR BID

by

BAY AREA TOLL AUTHORITY

for

FASTRAK® STRATEGIC PLAN IMPROVEMENT PROJECT
FABRICATION AND DELIVERY OF SIGN STRUCTURES AND ROADSIDE SIGN PANELS

August 29, 2006

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700

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I. INSTRUCTIONS TO BIDDERS AND BIDDING REQUIREMENTS

A. Directions

This package contains the specifications regarding the work to be done and the schedule. (*See Appendix A*, Technical **Specifications**). **All bids must be completed and submitted on the enclosed Bid Form, Appendix B, in order to be considered. Appendix C, Reference Form,** must also be submitted with the bid. Bidders who do not complete all appendices risk being found non-responsive.

The provisions set forth below specify the standards by which bids will be received and considered by BATA. Bids not complying with these provisions may be considered non-responsive by BATA.

Your bid package shall include the following:

- Signed Bid Form (Appendix B)
- Completed Reference Form (Appendix C)
- Bid Guaranty (Cashier's Check, Certified Check or Bid Bond)

B. Definitions

1. BATA: Bay Area Toll Authority

2. MTC: Metropolitan Transportation Commission

3. Bidder: An individual, firm, partnership, corporation, or combination thereof, submitting a bid.

4. Contractor/Supplier: The Bidder to whom a purchase order or contract is mailed or otherwise offered.

5. Bid: The forms included in this IFB become a bid when completed properly by a Bidder and submitted to BATA.

6. Contract: A signed BATA Purchase Order (refer to *Appendix D* for General Conditions) mailed or delivered to a particular bidder, shall constitute a binding contract, which incorporates this IFB, and its addenda, if any, all documents referenced herein, any deviations from the specifications expressed and accepted by BATA, and all terms and conditions of the Purchase Order.

7. Engineer: Written delegated authority of or representative of BATA

8. Department/Caltrans: California Department of Transportation

C. Preparation of Bid

1. General

All prices and quotations shall be written legibly by computer printer, typewriter or pen and ink. No erasures shall be made. Errors may be crossed out and corrected by typewriter or pen and ink adjacent to the item crossed out. Each correction shall be initialed in ink by the person signing the bid.

2. Bid Price

The bid price shall include all costs of labor, materials, equipment, tools, machinery, utilities, transportation, license or permit fees, overhead, and profit and all other services necessary for proper execution and completion of the work.

3. Taxes

The total bid price shall include full compensation for all applicable federal, state, and local taxes, as may be appropriate.

4. Irregular Bids

Bids may be rejected if they show such irregularities as: any alteration of form, additions not called for, conditional bids, incomplete bids, indefinite or ambiguous bids, obviously unrealistic or unbalanced prices, or a signature by other than an authorized person.

5. Conditional Bids

No condition included in a bid shall be binding upon BATA if in conflict with, inconsistent with, or in addition to the terms and conditions of this IFB, unless expressly accepted in writing by BATA.

6. Addenda and Interpretations

All requests for clarification or exception must be received no later than the date indicated in the Letter of Invitation to guarantee consideration and must be in writing addressed to: Attention: Project Manager (see Letter of Invitation) BATA, 101 - 8th Street, Oakland, CA 94607-4700. Any and all such requests for clarification or exception and any supplemental instructions will be in the form of written addenda to this IFB which, if issued, will be e-mailed, mailed and/or faxed with a request for confirmation, to all bidders who have requested addenda. All addenda so issued shall become part of the Contract Documents. BATA will not be responsible for any oral interpretation of the meaning of the requirements or specifications in this IFB.

7. Brand Names

Any references to Brand Names or the names of manufacturers and their catalog numbers is only descriptive of the variety and quality of items desired, and is not intended to be restrictive unless specifically indicated otherwise. Bids on items equal to those indicated herein for descriptive purposes will be considered, unless otherwise indicated, provided that a clear and detailed description of the manufacturer and model number of the substitution is given and the manufacturer's specifications are attached to the bid. BATA reserves the right to determine at its

sole discretion whether an item proposed is of equal value, utility or merit to the standards established by the Brand Name indicated.

8. Deviations

BATA reserves the right to permit deviations from the specifications if an article offered is deemed by BATA to be of as good quality and as satisfactory for its intended use as an article fully meeting specifications. Unless exceptions are noted by Bidder, the article offered will be assumed to be in accordance with specifications indicated.

9. Examination of Plans, Specifications and Sites

The Bidder shall satisfy him/herself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a bid shall be *prima facie* evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans and specifications.

10. Submission

Only bids submitted on the furnished bid form will be considered. Bids received after the date and time indicated for receipt of bids will not be considered. Bidders will be solely responsible for the delivery of the bid to BATA by the time, on the date, and at the location indicated for receipt of bids.

11. Withdrawal Before Bid Opening

No bid may be modified; however, a bid may be withdrawn by written request, signed by the individual who signed the bid or his authorized representative, and received by BATA prior to the time indicated for receipt of bid.

12. Protest of Specifications

Prospective bidders may submit written protests of IFB specific specifications on the grounds that the specifications are biased, unduly restrictive, discourage competition, or do not comply with state or local law or regulation no later than seven (7) calendar days prior to the date bids are due. Such protests will be reviewed by BATA and responded to prior to bid opening. If appropriate, the time of bid opening will be extended to accommodate any changes in the IFB.

13. Relief of Bidder after Bid Opening

Bid security and bonding is required in accordance with Section 3 Special Conditions of this IFB. Unless BATA in its sole discretion elects otherwise, a Bidder shall not be relieved of his bid nor shall any change be made in his bid because of mistake. If a Bidder requests relief and BATA agrees to consider such request, it will be such Bidder's responsibility to establish that:

(a) A mistake was made;

(b) The Bidder gave BATA written notice of the mistake within five days after the opening of bids, specifying in detail how the mistake occurred;

(c) The mistake made the bid materially different than the Bidder intended it to be; and

(d) The mistake was made in filling out the bid and was not due to error in judgment or to carelessness in reading the IFB or referenced documents.

D. Award of Contract

1. Bid Opening

Bids will be opened publicly and publicly announced at MTC's offices, at the address, on the date, and at the hour indicated herein for the receipt of bids. Bidders are invited (not required) to be present.

2. Duration of Offer

A signed bid is deemed to be an offer to enter into a contract for services bid and is firm for the period of time stated in the Letter of Invitation, unless extended by the bidder.

3. Discretion of BATA

BATA reserves the right to reject any and all bids and to waive informalities and minor irregularities in bids received, other provisions herein notwithstanding.

4. Selection of Supplier

The award, if an award is made, will be to the responsible Bidder, whose bid, conforming in all material respects to the terms and conditions of this IFB, is the lowest in price for the work requested, as indicated in the Total Bid Price space on the Appendix B Bid Form. A responsible bidder is one who possesses the ability to perform successfully under the terms and conditions of this IFB, as demonstrated by such areas as contractor integrity, record of past performance, and financial and technical resources.

5. One Bid

If BATA receives only one bid and that bid is made on terms differing from those set forth herein, BATA may, at its discretion, accept such terms as responsive.

6. Discrepancies in Unit Prices and Extensions

In the event of a discrepancy between the Bid unit prices and extensions, the Bid unit price shall govern.

7. Selection Disputes

A bidder may protest the selection of a Supplier on the grounds that BATA procedures, or applicable provisions of state or local law have been violated or inaccurately and/or inappropriately applied by BATA by submitting to the Project Manager a written explanation of the basis for protest within three (3) working days after bid opening.

BATA's decision to award a contract to a Supplier shall be conditioned upon the expiration of the protest period.

8. Conflict in IFB Provisions

In the event of a conflict between one or more provisions of the Contract, the more specific or stringent provision with respect to Contractor's performance of the work shall apply.

II. GENERAL CONDITIONS

A. Independent Supplier

Supplier is an independent contractor and not an employee or agent of BATA and has no authority to contract or enter into any other agreement in the name of BATA. Supplier has, and hereby retains, full control over the employment, direction, compensation and discharge of all persons employed by Supplier who are assisting in the performance of services under this Agreement. Supplier shall be fully responsible for all matters relating to the payment of its employees, including compliance with social security, withholding tax and all other laws and regulations governing such matters. Supplier shall be responsible for its own acts and those of its agents and employees during the term of this Agreement.

B. Changes to Purchase Order

Any material changes to the terms of the PO shall require a written amendment to the PO, signed by the BATA Executive Director or a designated representative and Supplier. No claim for additional compensation shall be recognized unless contained in a duly executed amendment.

C. Termination

1. Termination for Convenience

BATA may, by written notice stating the extent and effective date, terminate its contract with the Supplier for convenience in whole or in part, at any time. BATA shall pay the Supplier as full compensation for performance until such termination: (a) the pro rata price for the delivered and accepted portion of the work; and (b) with respect to the undelivered or unaccepted portion of the contract, a reasonable reimbursement for those costs incurred prior to termination, not otherwise recoverable from other sources by Supplier, provided compensation hereunder shall in no event exceed the total price. In no event shall BATA be liable for any loss of profits on the portion of the contract so terminated.

2. Termination for Default

If Supplier becomes insolvent, assigns or subcontracts the work without BATA approval, does not deliver the work specified in the Contract or fails to perform in the manner called for, or fails to comply with any other material provision of the Contract, BATA may terminate the Contract for default. Termination shall be effected by serving a ten (10) day advance written notice of termination on Supplier, setting forth the manner in which Supplier is in default. If Supplier does not cure the breach or propose a plan and schedule for curing the breach acceptable to BATA within the ten (10) day period, the Contract shall be deemed terminated, and written notice to that effect shall be served upon the Supplier's surety. If the surety does not cure the breach or propose an acceptable plan and schedule for cure within five (5) days of receiving the notice of

termination, BATA may take possession of all project material and may let the unfinished work to another contractor.

BATA shall pay the Supplier as full compensation for performance until such termination the amount which would be payable under Section C.1 above, offset by any costs incurred by BATA to correct or complete work required under the Contract, including the difference between Supplier's price for the contract and any higher price paid to another Supplier retained to complete the work.

If it is determined by BATA that Supplier's failure to perform resulted from unforeseeable causes beyond the control of Supplier, such as a strike, fire, flood, earthquake or other event that is not the fault of, or is beyond the control of Supplier, BATA, after setting up a new delivery or performance schedule, may allow Supplier to continue work, or treat the termination as a termination for convenience.

D. Indemnity

Supplier agrees to indemnify, and hold BATA, MTC, Caltrans and their commissioners, directors, officers, employees and agents harmless from all claims, demands, suits, losses, damages, injury, and liability, direct or indirect (including any and all costs and expenses in connection therewith), incurred by reason of any act, or failure to act of Supplier, its officers, agents, employees and subcontractors or any of them, under or in connection with this IFB; Supplier agrees at its own cost, expense and risk to defend any and all claims, demands, suits, or other legal proceedings brought or instituted against BATA, MTC, Caltrans and their commissioners, directors, officers, agents, and employees, or any of them arising out of such acts or failure to act, and to pay and satisfy any resulting judgments.

E. Assignment

The Supplier shall not assign any right, duty or responsibility in this contract without the prior written consent of BATA thereto; provided however, that claims for money due or to become due to Supplier from BATA under this Contract may be assigned without such approval. Notice of any such assignment shall be furnished promptly to BATA, and any such assignment shall be subject to all authorized withholdings in favor of BATA.

F. Choice of Law

All questions pertaining to the validity and interpretation of this Agreement shall be determined in accordance with the laws of the State of California.

G. Prohibited Intent

No member, officer or employee of BATA during his/her tenure shall have any interest, direct or indirect, in the Contract or the proceeds thereof.

III. SPECIAL CONDITIONS

A. Minimum Qualifications

To be eligible to submit a bid, a bidder must have successfully furnished sign structures under a minimum of three (3) other commercial contracts similar in size and scope to the specifications listed in this IFB, exceeding one hundred thousand dollars ($100,000). Bidders are required to verify these qualifications prior to the award of contract.

B. Period of Performance

Supplier shall provide the signs structures and roadside sign panels according to the quantities and schedule specified in *Appendix A* of this IFB.

C. Subcontractors

Bidders may not subcontract all or any portion of the work to be performed under the contract, with the exception of the roadside sign panels work and storing the sign structures and sign panels.

D. Acceptance by BATA

The BATA Project Manager or a designated representative will be responsible for accepting delivery of the signs structure and roadside sign panel units in accordance with the requirements of this contract. All delivered materials shall be inspected/tested in accordance with random sampling by the BATA Project Manager or a designated representative for conformance to the technical specifications listed in *Appendix A.* Material that does not meet the required technical specifications will be rejected. BATA may reject any item(s) or an entire shipment, at its sole discretion, if individual item(s) are not in compliance with these technical specifications or are in breach of warranty, express or implied, and/or are otherwise defective. The dollar value of the item(s) rejected will be deducted from the Supplier's invoice. BATA shall inspect all materials within 30 days of delivery.

E. Notices

All notices or other communications to either party by the other shall be deemed given when made in writing and delivered or mailed to such party at their respective addresses as follows:

To BATA:	Attention: Stephen Baker Project Manager BATA 101 - 8th Street Oakland, CA 94607-4700
To Supplier:	Signator of Bid form Supplier Name Address on Bid Form Telephone number on Bid Form

F. Liquidated Damages

Time is of the essence in this project. Contractor's failure to deliver sign structures and sign panels that conform to contract requirements into storage facilities within the schedule identified in *Appendix A*, or as such time periods or dates may be revised by Change Order, will result in damages being sustained by BATA. Since it is impractical and infeasible to determine the actual amount of such damage, it is further agreed that Contractor shall pay to BATA, as agreed, fixed and liquidated damages and not as a penalty, the amount specified hereunder for each day of delay or part thereof until such work or part thereof is completed and accepted by BATA, and Contractor and its surety shall be liable for the amount thereof.

BATA may deduct the sum of liquidated damages from progress payment(s) due under this Contract as follows:

Description	***LD's $***
1-30 days	***$1000/calendar day***
31-60 days	***$2000/calendar day***
Over 60 days	***$5000/calendar day***

G. Bonding

The successful Bidder shall furnish a Performance Bond and a Labor and Material Payment Bond. The bonds shall each be in an amount equal to 100% of the total bid amount. The bonds shall be made in favor of BATA; on forms provided by BATA (*Appendices F and G*) executed by a surety company(ies) acceptable to BATA ("Best Guide rating of "A+10" rating or better) and authorized to execute such in the State of California; and shall be furnished within 10 days of issuance of purchase order by BATA. The Performance Bond shall guarantee the faithful performance of the Contract, within the time prescribed, in a manner satisfactory to BATA, and shall guarantee that all materials and workmanship will be free from original or developed defects. The Performance Bond shall be in effect until the end of all warranty periods in the Contract. The Payment Bond shall secure the payment of the claims of laborers, mechanics or material men employed on the work under Contract and shall be in full force and effect until all work is accepted by BATA and all claims for materials and labor have been paid. Changes in the Scope of Work or extensions of time shall in no way release Contractor from its obligations hereunder.

Should any surety or sureties be deemed unsatisfactory at any time by BATA notice will be given Contractor to that effect, and Contractor shall forthwith substitute a new surety or sureties satisfactory to BATA; provided, however, that the time set out herein for submitting bonds shall not be extended thereby. No further payment shall be deemed due or will be made under the Contract until the new Sureties qualify and are accepted by BATA.

All alterations, time extensions, extra and additional work, and other changes authorized by the Specifications, or any part of the Contract, may be made without securing consent of the Surety or Sureties on the contract bonds.

H. Insurance Requirements

1. Minimum Coverages, CONTRACTOR shall, at its own expense, obtain and maintain in effect at all times during the life of this Agreement the following types of insurance against claims, damages and losses due to injuries to persons or damage to property or other losses that may arise in connection with the performance of work under this Agreement, placed with insurers with a Best's rating of A-X or better.

1.1 Workers' Compensation Insurance, as required by law, and Employer's Liability Insurance in an amount no less than $1,000,000 (for bodily injury by accident and by disease (policy limit and each employee)).

1.2 Commercial General Liability Insurance ("occurrence" form), with a combined single limit of not less than $1,000,000 for bodily injury and property damage each occurrence, a combined single limit of not less than $1,000,000 for personal injury and advertising injury, and $2,000,000 general aggregate applying separately to this project.

1.3 Owned, Non-Owned and Hired Automobile Liability Insurance in the amount of $1,000,000 each accident.

2. Deductibles. Any deductibles or self-insurance retentions over $10,000 are subject to the approval of BATA.

3. Notice of Termination. All CONTRACTOR policies shall provide that the insurance carrier shall give written notice to BATA at least 30 days prior to cancellation, non-renewal or material change of coverage in the policy or policies, and shall provide notice of such change to BATA and any other additional insured.

4. Additional Provisions. Each policy or policies of insurance described in Article 7.A.2 above shall contain the following provisions or endorsement:

4.1 Including BATA, Caltrans, and their directors, Commissioners, officers, representatives, agents and employees, as additional insureds with respect to work or operations in connection with this Agreement.

4.2 Providing that such insurance is primary insurance and no insurance of BATA or Caltrans will be called on to contribute to a loss.

5. Certificates of Insurance. Promptly on execution of this Agreement and prior to commencement of any work hereunder, CONTRACTOR shall deliver to BATA Certificates of Insurance verifying the aforementioned coverages. Such certificates shall make reference to all provisions and endorsements referred to above and shall be signed on behalf of the insurer by an authorized representative thereof. CONTRACTOR agrees, upon written request by BATA, to furnish copies of such policies or endorsements, certified by an authorized representative of the insurer. CONTRACTOR agrees to furnish to the BATA Project Manager a copy of all Additional Insured endorsements required under the Agreement within sixty (60) days of the Effective Date of the Agreement.

6. Disclaimer. The foregoing requirements as to the types and limits of insurance coverage to be maintained by CONTRACTOR are not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by CONTRACTOR pursuant hereto, including, but not limited to, liability assumed pursuant to Article 9 of this Agreement.

7. Subcontractor's Insurance. CONTRACTOR shall require each of its subcontractors to provide the aforementioned coverages, unless such coverages are waived or reduced in writing by the BATA Project Manager.

I. Payment and Invoicing

BATA shall make one lump sum payment of the contract price to Contractor after all sign structures and panels are accepted by BATA and subsequently removed by BATA from the Contractor-furnished storage facility(ies). Contractor shall submit an invoice to BATA within thirty (30) days of such completion of work.

APPENDIX A – TECHNICAL SPECIFICATIONS

FASTRAK® STRATEGIC PLAN IMPROVEMENT PROJECT
FABRICATION AND DELIVERY OF SIGN STRUCTURES AND ROADSIDE SIGN PANELS

I. GENERAL

The Fastrak® Strategic Plan Improvement project includes the manufacture, fabrication, inspection, testing, shipping, unloading, and stockpiling of overhead sign structures and roadside sign panels. The products manufactured under this Invitation For Bid (IFB) will be installed under separate construction packages to be issued by BATA in August 2006. The size and quantity of overhead sign structures and road side sign panels are summarized as follows:

Location	No. Overhead Sign Structures	No. Road Side Sign Panels
Antioch/Carquinez	1 EA two-post truss	66
SFOBB/Richmond-San Rafael	3 EA two-post truss, 1 EA cantilever truss	68
Dumbarton/San Mateo-Hayward	4 EA two-post truss	49
Benicia-Martinez	1 EA two-post truss, 1 EA cantilever truss	35
TOTAL	**11**	**218**

II. SCHEDULE

All material furnished under this Contract must be delivered to the BATA designated storage facility and tendered to the BATA Project Manager or designee for acceptance no later than **one hundred (113) calendar days** after BATA issues the Purchase Order. Storage of such material shall be in accordance with the terms outlined in Section X, Delivery, Unloading and Storage of this *Appendix A.*

III. PROJECT INFORMATION

The information in this section has been compiled specifically for this project and is made available for bidders and Contractors. The Caltrans 1999 Standard Specifications (CSS) are not included in this IFB as an appendix due to the size of said document, however the CSS are incorporated herein by this reference. The information is subject to the conditions and limitations set forth in CSS Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work" and CSS Section 6-2, "Local Materials". Bidders and Contractors shall be responsible for knowing the procedures for obtaining information.

The BATA Toll Plaza Improvement Projects Procurement Package: Sign Structures and Roadside Sign Panels Plans are attached hereto and incorporated herein as *Appendix A-1*.

Where dimensions of materials required by this contract are dependent on the dimensions of the existing conditions, the Contractor shall verify the controlling field dimensions and shall be responsible for adjusting dimensions of the work to fit existing conditions.

The State of California Department of Transportation (Department) maintains the following list of Prequalified and Tested Signing and Delineation Materials. The Engineer shall not be precluded from sampling and testing products on the list of Prequalified and Tested Signing Materials. The manufacturer of products on the list of Prequalified and Tested Signing Materials, through the Contractor, shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in CSS Section 6-1.07, "Certificates of Compliance" for each type of traffic product supplied. For those categories of materials included on the list of Prequalified and Tested Signing Materials, only those products shown within the listing may be used in the work. Other categories of products, not included on the list of Prequalified and Tested Signing Materials, may be used in the work provided they conform to the requirements of the CSS. Materials and products may be added to the list of Prequalified and Tested Signing Materials if the manufacturer submits a New Product Information Form to the New Product Coordinator at the Transportation Laboratory. Upon a Departmental request for samples, sufficient samples shall be submitted to permit performance of required tests. Approval of materials or products will depend upon compliance with the specifications and tests the Department may elect to perform.

RETROREFLECTIVE SHEETING

SIGNS: TYPE II, MEDIUM-HIGH-INTENSITY (TYPICALLY ENCLOSED LENS, GLASS-BEAD ELEMENT)

A. Avery Dennison, T-2500 Series
B. Kiwalite, Type II
C. Nikkalite 1800 Series

SIGNS: TYPE III, HIGH-INTENSITY (TYPICALLY ENCAPSULATED GLASS-BEAD ELEMENT)

A. Avery Dennison, T-5500 and T-5500A Series
B. Nippon Carbide Industries, Nikkalite Brand Ultralite Grade II
C. 3M Series 3870

SIGNS: TYPE IV, HIGH-INTENSITY (TYPICALLY UNMETALLIZED MICROPRISMATIC ELEMENT)

A. Avery Dennison, T-6500 Series
B. Nippon Carbide Industries, Crystal Grade, 94000 Series

C. Nippon Carbide Industries, Model No. 94847 Fluorescent Orange
D. Nippon Carbide Industries, Model No. 94844 Fluorescent Yellow Green

SIGNS: TYPE VI, ELASTOMERIC (ROLL-UP) HIGH-INTENSITY, WITHOUT ADHESIVE

A. Avery Dennison, WU-6014
B. Novabrite LLC, "Econobrite"
C. Reflexite "Vinyl"
D. Reflexite "SuperBright"
E. Reflexite "Marathon"
F. 3M Series RS34 Orange and RS20 Fluorescent Orange

SIGNS: TYPE VII, SUPER-HIGH-INTENSITY (TYPICALLY UNMETALLIZED MICROPRISMATIC ELEMENT)

A. 3M LDP Series 3924 Fluorescent Orange
B. 3M LDP Series 3970

SIGNS: TYPE VIII, SUPER-HIGH-INTENSITY (TYPICALLY UNMETALLIZED MICROPRISMATIC ELEMENT)

A. Avery Dennison, T-7500 Series
B. Avery Dennison, T-7511 Fluorescent Yellow
C. Avery Dennison, T-7513 Fluorescent Yellow Green
D. Avery Dennison, W-7514 Fluorescent Orange
E. Nippon Carbide Industries, Nikkalite Crystal Grade Series 92800
F. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92844 Fluorescent Yellow/Green
G. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92847 Fluorescent Orange

SIGNS: TYPE IX, VERY-HIGH-INTENSITY (TYPICALLY UNMETALLIZED MICROPRISMATIC ELEMENT)

A. 3M VIP Series 3981 Diamond Grade Fluorescent Yellow
B. 3M VIP Series 3983 Diamond Grade Fluorescent Yellow/Green
C. 3M VIP Series 3990 Diamond Grade

SPECIALTY SIGNS

A. Hallmark Technologies, Inc., All Sign STOP Sign (All Plastic), 750 mm
B. Reflexite "Endurance" Work Zone Sign (with Semi-Rigid Plastic Substrate)

SIGN SUBSTRATE

FIBERGLASS REINFORCED PLASTIC (FRP)

A. Fiber-Brite

B. Sequentia, "Polyplate"
C. Inteplast Group "InteCel" (13 mm for Post-Mounted CZ Signs, 1200 mm or less)

ALUMINUM COMPOSITE

A. Alcan Composites "Dibond Material, 2 mm" (for temporary construction signs only)
B. Mitsubishi Chemical America, Alpolic 350 (for temporary construction signs only)

V. WELDING

1. General

Flux core welding electrodes conforming to the requirements of the American Welding Society (AWS) A5.20 E6XT-4 or E7XT-4 shall not be used to perform welding for this project.

Wherever reference is made to the following AWS welding codes in the CSS, on the Plans, or in these technical specifications, the year of adoption for these codes shall be as listed:

AWS Code	Year of Adoption
D1.1	2002
D1.4	1998
D1.5	2002
D1.6	1999

Requirements of the AWS welding codes shall apply unless specified otherwise in the CSS, on the Plans, or in these technical specifications. Wherever the abbreviation AWS is used, it shall be equivalent to the abbreviations ANSI/AWS or AASHTO/AWS.

2. Modifications to the American Welding Society Codes

2.1 Section 6.1.1.1 of AWS D1.5 is replaced with the following:

Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and as necessary to ensure that materials and workmanship conform to the requirements of the contract documents.

2.2 Sections 6.1.3 through 6.1.4.3 of AWS D1.1, Section 7.1.2 of AWS D1.4, and Sections 6.1.1.2 through 6.1.3.3 of AWS D1.5 are replaced with the following:

The QC Inspector shall be the duly designated person who acts for and on behalf of the Contractor for inspection, testing, and quality related matters for all welding. Quality Assurance (QA) is the prerogative of the Engineer. The QA Inspector is the duly designated person who acts for and on behalf of the Engineer. The QC Inspector shall be responsible for quality control acceptance or rejection of materials and workmanship, and shall be currently certified as an

AWS Certified Welding Inspector (CWI) in conformance with the requirements in AWS QC1, " Standard for AWS Certification of Welding Inspectors." The QC Inspector may be assisted by an Assistant QC Inspector provided that this individual is currently certified as an AWS Certified Associate Welding Inspector (CAWI) in conformance with the requirements in AWS QC1, "Standard for AWS Certification of Welding Inspectors." The Assistant QC Inspector may perform inspection under the direct supervision of the QC Inspector provided the Assistant is always within visible and audible range of the QC Inspector. The QC Inspector shall be responsible for signing all reports and for determining if welded materials conform to workmanship and acceptance criteria. The ratio of QC Assistants to QC Inspectors shall not exceed 5 to 1. When the term "Inspector" is used without further qualification, it shall refer to the QC Inspector.

2.3 Section 6.14.6, "Personnel Qualification," of AWS D1.1, Section 7.8, "Personnel Qualification," of AWS D1.4, and Section 6.1.3.4, "Personnel Qualification," of AWS D1.5 are replaced with the following:

Personnel performing NonDestructive Testing (NDT) shall be qualified and certified in conformance with the requirements of the American Society for Nondestructive Testing (ASNT) Recommended Practice 2.4 No. SNT-TC-1A and the Written Practice of the NDT firm. The Written Practice of the NDT firm shall meet or exceed the guidelines of the ASNT Recommended Practice No. SNT-TC-1A. Individuals who perform NDT, review the results, and prepare the written reports shall be either:

A. Certified NDT Level II technicians; or
B. Level III technicians who hold a current ASNT Level III certificate in that discipline and are authorized and certified to perform the work of Level II technicians.

2.5 Section 6.5.4 of AWS D1.5 is replaced with the following:

The QC Inspector shall inspect and approve each joint preparation, assembly practice, welding technique, joint fit-up, and the performance of each welder, welding operator, and tack welder to make certain that the applicable requirements of this code and the approved Welding Procedure Specification (WPS) are met. The QC Inspector shall examine the work to make certain that it meets the requirements of Sections 3 and 6.26. The size and contour of all welds shall be measured using suitable gages. Visual inspection for cracks in welds and base metal, and for other discontinuities should be aided by strong light magnifiers, or such other devices as may be helpful. Acceptance criteria different from those specified in this code may be used when approved by the Engineer.

2.6 Section 6.6.5, "Nonspecified NDT Other than Visual," of AWS D1.1, Section 6.6.5 of AWS D1.4 and Section 6.6.5 of AWS D1.5 shall not apply.

2.7 For any welding, the Engineer may direct the Contractor to perform NDT that is in addition to the visual inspection or NDT specified in the AWS or other specified welding codes, in the CSS, or in these technical specifications. Additional NDT required by the Engineer will be paid for as extra work as provided in CSS Section 4-1.03D, "Extra Work". Should any welding

deficiencies be discovered by this additional NDT, all costs associated with the repair of the deficient area, including NDT of the weld and of the weld repair, and any delays caused by the repair, shall be at the Contractor's expense.

2.8 The Engineer shall have the authority to verify the qualifications or certifications of any welder, QC Inspector, or NDT personnel to specified levels by retests or other means approved by the Engineer.
2.9~~10~~ Continuous inspection shall be provided when any welding is being performed. Continuous inspection, as a minimum, shall include having a QC Inspector within such close proximity of all welders or welding operators so that inspections by the QC Inspector of each welding operation at each welding location shall not lapse for a period exceeding 30 minutes.

2.10 Inspection and approval of all joint preparations, assembly practices, joint fit-ups, welding techniques, and the performance of each welder, welding operator, and tack welder shall be documented by the QC Inspector on a daily basis for each day welding is performed. For each inspection, including fit-up, Welding Procedure Specification (WPS) verification, and final weld inspection, the QC Inspector shall confirm and document compliance with the requirements of the AWS or other specified code criteria and the requirements of these special provisions on all welded joints before welding, during welding, and after the completion of each weld.

2.11 When joint weld details that are not prequalified to the details of Section 3 of AWS D1.1 or to the details of Figure 2.4 or 2.5 of AWS D1.5 are proposed for use in the work, the joint details, their intended locations, and the proposed welding parameters and essential variables, will be approved by the Engineer. The Engineer shall have 2 weeks to complete the review of the proposed joint detail locations. In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in CSS Section 8-1.09, "Right of Way Delays". Upon approval of the proposed joint detail locations and qualification of the proposed joint details, welders and welding operators using these details shall perform a qualification test plate using the WPS variables and the joint detail to be used in production. The test plate shall have the maximum thickness to be used in production and a minimum length of 180 mm and minimum finish welded width 460 mm. The test plate shall be mechanically and radiographically tested. Mechanical and radiographic testing and acceptance criteria shall be as specified in the applicable AWS codes.

2.12 In addition to the requirements specified in the applicable code, the period of effectiveness for a welder's or welding operator's qualification shall be a maximum of 3 years for the same weld process, welding position, and weld type. If production welding will be performed without gas shielding, then qualification shall also be without gas shielding. Excluding welding of fracture critical members, a valid qualification at the beginning of work on a contract will be acceptable for the entire period of the contract, as long as the welder's or welding operator's work remains satisfactory.

2.13 The Engineer will witness all qualification tests for WPSs that were not previously approved by the Department. An approved independent third party will witness the qualification tests for welders or welding operators. The independent third party shall be a current CWI and shall not be employed by the contractor performing the welding. The Engineer shall have 2 weeks to review the qualifications and copy of the current certification of the independent third party. In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in CSS Section 8-1.09, "Right of Way Delays". The Contractor shall notify the Engineer one week prior to performing any qualification tests. Witnessing of qualification tests by the Engineer shall not constitute approval of the intended joint locations, welding parameters, or essential variables.

2.14 In addition to the requirements of AWS D1.5 Section 5.12 or 5.13, welding procedures qualification, for work welded in conformance with that code, shall conform to the following requirements:

A. Unless considered prequalified, fillet welds, including reinforcing fillet welds, shall be qualified in each position. The fillet weld soundness test shall be conducted using the essential variables of the WPS as established by the Procedure Qualification Record (PQR.)
B. For qualification of joints that do not conform to Figures 2.4 and 2.5 of AWS D1.5, two WPS qualification tests are required. The tests conforming to AWS D1.5 Section 5.13 shall be conducted using both Figure 5.1 and Figure 5.3. The test conforming to Figure 5.3 shall be conducted using the same welding electrical parameters that were established for the test conducted conforming to Figure 5.1.
C. The travel speed, current, and voltage values that are used for tests conducted per AWS D1.5 Section 5.12 or 5.13 shall be consistent for each weld joint, and shall in no case vary by more than 10 percent for travel speed, 10 percent for current, and 7 percent for voltage.
D. For a WPS qualified in conformance with AWS D1.5 Section 5.13, the values to be used for calculating ranges for current and voltage shall be based on the average of all weld passes made in the test. Heat input shall be calculated using the average of current and voltage of all weld passes made in the test for a WPS qualified in conformance with Section 5.12 or 5.13.
E. To qualify for unlimited material thickness, two qualification tests are required for WPSs utilized for welding material thicknesses greater than 38 mm. One test shall be conducted using 20-mm thick test plates, and one test shall be conducted using test plates with a thickness between 38 mm and 50 mm. Two maximum heat input tests may be conducted for unlimited thickness qualification.
F. Macroetch tests are required for WPS qualification tests, and acceptance shall be per AWS D1.5 Section 5.19.3.
G. When a weld joint is to be made using a combination of qualified WPSs, each process shall be qualified separately.

H. When a weld joint is to be made using a combination of qualified and prequalified processes, the WPS shall reflect both processes and the limitations of essential variables, including weld bead placement, for both processes.
I. Prior to preparing mechanical test specimens, the PQR welds shall be inspected by visual and radiographic tests. Backing bar shall be 75 mm in width and shall remain in place during NDT testing. Results of the visual and radiographic tests shall comply with AWS D1.5 Section 6.26.2, excluding Section 6.26.2.2. Test plates that do not comply with both tests shall not be used.

3. Welding Quality Control

Welding quality control shall conform to the requirements in the AWS or other specified welding codes, the CSS, and these technical specifications.

Unless otherwise specified, welding quality control shall apply when any work is welded in conformance with the provisions in Section 49, "Piling", Section 52, "Reinforcement", Section 55, "Steel Structures", or Section 75-1.035, "Bridge Joint Restrainer Units" of the CSS.

In addition, welding quality control shall apply when welding is performed on the Sign Structures.

The welding of Fracture Critical Members (FCMs) shall conform to the provisions specified in the Fracture Control Plan (FCP) and herein.

The Contractor shall designate in writing a welding Quality Control Manager (QCM). The QCM shall be responsible directly to the Contractor for the quality of welding, including materials and workmanship, performed by the Contractor and subcontractors.

The QCM shall be the sole individual responsible to the Contractor for submitting, receiving, reviewing, and approving all correspondence, required submittals, and reports to and from the Engineer. The QCM shall be a registered professional engineer or shall be currently certified as a CWI or a CAWI.

The QCM shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project. The QCM may be an employee of the Contractor.

Welding inspection personnel or NDT firms to be used in the work shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project, except for the following conditions:

A. The work is welded in conformance with AWS D1.5 and is performed at a permanent fabrication or manufacturing facility which is certified under the AISC Quality Certification Program, Category Cbr, Major Steel Bridges and Fracture Critical endorsement F.

B. The welding is performed on pipe pile material at a permanent pipe manufacturing facility authorized to apply the American Petroleum Institute (API) monogram for API 5L pipe.

For welding performed at such facilities, the inspection personnel or NDT firms may be employed or compensated by the facility performing the welding.

Prior to submitting the Welding Quality Control Plan (WQCP) required herein, a pre-welding meeting between the Engineer, the Contractor's QCM, and a representative from each entity performing welding or inspection for this project, shall be held to discuss the requirements for the WQCP.

The Contractor shall submit to the Engineer, in conformance with the provisions in CSS Section 5-1.02, "Plans and Working Drawings", 2 copies of a separate WQCP for each subcontractor or supplier for each item of work for which welding is to be performed.

The Contractor shall allow the Engineer 2 weeks to review the WQCP submittal after a complete plan has been received. No welding shall be performed until the WQCP is approved in writing by the Engineer. In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in CSS Section 8-1.09, "Right of Way Delays".

An amended WQCP or any addendum to the approved WQCP shall be submitted to, and approved in writing by the Engineer, for proposed revisions to the approved WQCP. An amended WQCP or addendum will be required for revisions to the WQCP, including but not limited to a revised WPS; additional welders; changes in NDT firms, QC, or NDT personnel or procedures; or updated systems for tracking and identifying welds. The Engineer shall have 1 week to complete the review of the amended WQCP or addendum. Work affected by the proposed revisions shall not be performed until the amended WQCP or addendum has been approved. In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in CSS Section 8-1.09, "Right of Way Delays".

Information regarding the contents, format, and organization of a WQCP, is available at the Caltrans Transportation Laboratory or the following website:
http://www.dot.ca.gov/hq/esc/Translab/smbresources.htm

After final approval of the WQCP, amended WQCP, or addendum, the Contractor shall submit 7 copies to the Engineer of the approved documents. A copy of the Engineer approved document shall be available at each location where welding is to be performed.

A daily production log for welding shall be kept for each day that welding is performed. The log shall clearly indicate the locations of all welding. The log shall include the welders' names, amount of welding performed, any problems or deficiencies discovered, and any testing or repair work performed, at each location. The daily report from each QC Inspector shall also be included in the log.

The following items shall be included in a Welding Report that is to be submitted to the Engineer within 10 days following the performance of any welding:

A. Reports of all visual weld inspections and NDT;
B. Radiographs and radiographic reports, and other required NDT reports;
C. Documentation that the Contractor has evaluated all radiographs and other nondestructive tests and corrected all rejectable deficiencies, and all repaired welds have been reexamined by the required NDT and found acceptable; and
D. Daily production log.

The following information shall be clearly written on the outside of radiographic envelopes: name of the QCM, name of the nondestructive testing firm, name of the radiographer, date, contract number, complete part description, and all included weld numbers or a report number, as detailed in the WQCP. In addition, all innerleaves shall have clearly written on them the part description and all included weld numbers, as detailed in the WQCP.

Reports regarding NDT shall be signed by both the NDT technician and the person that performed the review, and then submitted directly to the QCM for review and signature prior to submittal to the Engineer. Corresponding names shall be clearly printed or typewritten next to all signatures.

The Engineer will review the Welding Report to determine if the Contractor is in conformance with the WQCP. Unless otherwise specified, the Engineer shall be allowed 10 days to review the report and respond in writing after a complete Welding Report has been received. Prior to receiving notification from the Engineer of the Contractor's conformance with the WQCP, the Contractor may encase in concrete or cover welds for which a Welding Report has been submitted. However, should the Contractor elect to encase or cover those welds prior to receiving notification from the Engineer, it is expressly understood that the Contractor shall not be relieved of the responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Material not conforming to these requirements will be subject to rejection. Should the Contractor elect to wait to encase or cover welds pending notification by the Engineer, and in the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in CSS Section 8-1.09, "Right of Way Delays".

The QC Inspector shall provide reports to the QCM on a daily basis for each day that welding is performed.

Except for noncritical weld repairs, the Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered, and also of the proposed repair procedures to correct them. The Contractor shall allow the Engineer one week to review these procedures. No remedial work shall begin until the Engineer approves the repair procedures in writing. In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in CSS Section 8-1.09, "Right of Way Delays".

The QCM shall sign and furnish to the Engineer, a Certificate of Compliance in conformance with the provisions in CSS Section 6-1.07, "Certificates of Compliance" for each item of work for which welding was performed. The certificate shall state that all of the materials and workmanship incorporated in the work, and all required tests and inspections of this work, have been performed in conformance with the details shown on the Plans, the CSS, and these technical specifications.

4. Welding For Overhead Sign Structures

The Contractor shall meet the following requirements for any work welded in conformance with the provisions in Section 56-1, "Overhead Sign Structures" or Section 86-2.04, "Standards, Steel Pedestals and Posts" of the CSS.

Welding inspection personnel or NDT firms to be used in the work shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project, except for when the welding is performed at a permanent fabrication or manufacturing facility which is certified under the AISC Quality Certification Program, Category Sbd, Conventional Steel Building Structures.

5. Welding Qualification Audit

Contractors or subcontractors performing welding operations for overhead sign structures shall not deliver materials to the project without having successfully completed the Department's "Manufacturing Qualification Audit for Overhead Sign Structures," hereinafter referred to as the audit, not more than one year prior to the delivery of the materials. The Engineer will perform the audit. Copies of the audit form, and procedures for requesting and completing the audit, are available at the Caltrans Transportation Laboratory or the following website: http://www.dot.ca.gov/hq/esc/Translab/smbresources.htm

An audit that was approved by the Engineer no more than one year prior to the beginning of work on this contract will be acceptable for the entire period of this contract, provided the Engineer determines the audit was for the same type of work that is to be performed under this contract.

Successful completion of an audit shall not relieve the Contractor of the responsibility for furnishing materials or producing finished work of the quality specified in these special provisions and as shown on the Plans.

6. Welding Report

For work welded in conformance with the provisions in Section 56-1, "Overhead Sign Structures" or Section 86-2.04, "Standards, Steel Pedestals and Posts" of the CSS, a Welding Report shall be submitted in conformance with the provisions in Section__,Welding Quality Control of these technical specifications.

7. Payment

Full compensation for conforming to the requirements of Section_IV, Welding shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

VI. STEEL STRUCTURES

Construction of steel structures shall conform to the provisions in Section 55, "Steel Structures" of the CSS and these technical specifications.

1. General

Attention is directed to Section V, Welding, of these technical specifications.
The following substitutions of high-strength steel fasteners shall be made:

METRIC SIZE SHOWN ON THE PLANS	SIZE TO BE SUBSTITUTED
ASTM Designation: A 325M (Nominal bolt diameter (mm))	ASTM Designation: A 325 (Nominal bolt diameter (inch))
13, 12.70, or M12	½
16, 15.88, or M16	5/8
19, 19.05, or M20	¾
22, 22.22, or M22	7/8
24, 25, 25.40, or M24	1
29, 28.58, or M27	1 1/8
32, 31.75, or M30	1 ¼
38, 38.10, or M36	1 ½

2. Materials

Structural steel rolled shapes used in Sign Structures shall conform to the Charpy V-notch impact values specified for steel plate in CSS Section 55-2, "Materials".

High-strength fastener assemblies and other bolts attached to structural steel with nuts and washers shall be zinc-coated. When direct tension indicators are used in these assemblies, the

direct tension indicator and all components of the fastener assembly shall be zinc-coated by the mechanical deposition process.

3. Rotational Capacity Testing Prior to Shipment to Job Site

Rotational capacity tests shall be performed by Contractor on all lots of high-strength fastener assemblies prior to shipment of these lots to the project site. Zinc-coated assemblies shall be tested after all fabrication, coating, and lubrication of components has been completed. One hardened washer shall be used under each nut for the tests.

The requirements of this section do not apply to high-strength cap screws or high-strength bolts used for slip base plates.

Each combination of bolt production lot, nut lot, and washer lot shall be tested as an assembly.

A rotational capacity lot number shall be assigned to each combination of lots tested. Each shipping unit of fastener assemblies shall be plainly marked with the rotational capacity lot number.

Two fastener assemblies from each rotational capacity lot shall be tested.

The following equipment, procedure, and acceptance criteria shall be used by Contractor to perform rotational capacity tests on and determine acceptance of long bolts. Fasteners are considered to be long bolts when full nut thread engagement can be achieved when installed in a bolt tension-measuring device:

A. Long Bolt Test Equipment:

1. Calibrated bolt tension measuring device with adequate tension capacity for the bolts being tested.
2. Calibrated dial or digital torque wrench. Other suitable tools will be required for performing Steps 7 and 8 of the Long Bolt Test Procedure. A torque multiplier may be required for large diameter bolts.
3. Spacer washers or bushings. When spacer washers or bushings are required, they shall have the same inside diameter and equal or larger outside diameter as the appropriate hardened washers conforming to the requirements in ASTM Designation: F436.
4. Steel beam or member, such as a girder flange or cross frame, to which the bolt tension measuring device will be attached. The device shall be accessible from the ground.

B Long Bolt Test Procedure:

1. Measure the bolt length. The bolt length is defined as the distance from the end of the threaded portion of the shank to the underside of the bolt head.

2. Install the nut on the bolt so that 3 to 5 full threads of the bolt are located between the bearing face of the nut and the underside of the bolt head. Measure and record the thread stickout of the bolt. Thread stickout is determined by measuring the distance from the outer face of the nut to the end of the threaded portion of the shank.
3. Insert the bolt into the bolt tension measuring device and install the required number of washers, and additional spacers as needed, directly beneath the nut to produce the thread stickout measured in Step 2 of this procedure.
4. Tighten the nut using a hand wrench to a snug-tight condition. The snug tension shall not be less than the Table A value but may exceed the Table A value by a maximum of 2 kips.

Table A

High-Strength Fastener Assembly Tension Values to Approximate Snug-Tight Condition	
Bolt Diameter (inches)	Snug Tension (kips)
1/2	1
5/8	2
3/4	3
7/8	4
1	5
1 1/8	6
1 1/4	7
1 3/8	9
1 1/2	10

5. Match-mark the assembly by placing a heavy reference start line on the face plate of the bolt tension measuring device which aligns with 1) a mark placed on one corner of the nut, and 2) a radial line placed across the flat on the end of the bolt, or on the exposed portions of the threads of tension control bolts. Place an additional mark on the outside of the socket that overlays the mark on the nut corner such that this mark will be visible while turning the nut. Make an additional mark on the face plate, either 2/3 of a turn, one turn, or 1 1/3 turn clockwise from the heavy reference start line, depending on the bolt length being tested as shown in Table B.

Table B

Required Nut Rotation for Rotational Capacity Tests[a,b]	
Bolt Length (measured in Step 1)	Required Rotation (turn)
4 bolt diameters or less	2/3
Greater than 4 bolt diameters but no more than 8 bolt diameters	1
Greater than 8 bolt diameters, but no more than 12 bolt diameters[c]	1 1/3
(a) Nut rotation is relative to bolt, regardless of the element (nut or bolt) being turned. For bolts installed by 1/2 turn and less, the tolerance shall be plus or minus 30 degrees; for bolts installed by 2/3 turn and more, the tolerance shall be plus or minus 45 degrees. (b) Applicable only to connections in which all material within grip of the bolt is steel. (c) When bolt length exceeds 12 diameters, the required rotation shall be determined by actual tests in a suitable tension device simulating the actual conditions.	

6. Turn the nut to achieve the applicable minimum bolt tension value listed in Table C. After reaching this tension, record the moving torque, in foot-pounds, required to turn the nut, and also record the corresponding bolt tension value in pounds. Torque shall be measured with the nut in motion. Calculate the value, T (in ft-lbs), where T=[(the measured tension in pounds) x (the bolt diameter in inches) / 48 in/ft].

Table C

Minimum Tension Values for High-Strength Fastener Assemblies	
Bolt Diameter (inches)	Minimum Tension (kips)
½	12
5/8	19
¾	28
7/8	39
1	51
1 1/8	56
1 ¼	71
1 3/8	85
1 ½	103

7. Turn the nut further to increase bolt tension until the rotation listed in Table B is reached. The rotation is measured from the heavy reference line made on the face plate after the bolt was snug-tight. Record this bolt tension.
8. Loosen and remove the nut and examine the threads on both the nut and bolt.

C. Long Bolt Acceptance Criteria:

1. An assembly shall pass the following requirements to be acceptable: 1) the measured moving torque (Step 6) shall be less than or equal to the calculated value, T (Step 6), 2) the bolt tension measured in Step 7 shall be greater than or equal to the applicable turn test tension value listed in Table D, 3) the nut shall be able to be removed from the bolt without signs of thread stripping or galling after the required rotation in Step 7 has been achieved, 4) the bolt does not shear from torsion or fail during the

test, and 5) the assembly does not seize before the final rotation in Step 7 is reached. Elongation of the bolt in the threaded region between the bearing face of the nut and the underside of the bolt head is expected and will not be considered a failure. Both fastener assemblies tested from one rotational capacity lot shall pass for the rotational capacity lot to be acceptable.

Table D

Turn Test Tension Values	
Bolt Diameter (inches)	Turn Test Tension (kips)
½	14
5/8	22
¾	32
7/8	45
1	59
1 1/8	64
1 ¼	82
1 3/8	98
1 ½	118

The following equipment, procedure, and acceptance criteria shall be used by Contractor to perform rotational capacity tests on and determine acceptance of short bolts. Fasteners are considered to be short bolts when full nut thread engagement cannot be achieved when installed in a bolt tension measuring device:

A. Short Bolt Test Equipment:

1. Calibrated dial or digital torque wrench. Other suitable tools will be required for performing Steps 7 and 8 of the Short Bolt Test Procedure. A torque multiplier may be required for large diameter bolts.
2. Spud wrench or equivalent.
3. Spacer washers or bushings. When spacer washers or bushings are required, they shall have the same inside diameter and equal or larger outside diameter as the appropriate hardened washers conforming to the requirements in ASTM Designation: F436.
4. Steel plate or girder with a hole to install bolt. The hole size shall be 1.6 mm greater than the nominal diameter of the bolt to be tested. The grip length, including any plates, washers, and additional spacers as needed, shall provide the proper number of threads within the grip, as required in Step 2 of the Short Bolt Test Procedure.

B. Short Bolt Test Procedure:

1. Measure the bolt length. The bolt length is defined as the distance from the end of the threaded portion of the shank to the underside of the bolt head.
2. Install the nut on the bolt so that 3 to 5 full threads of the bolt are located between the bearing face of the nut and the underside of the bolt head. Measure and record the

thread stickout of the bolt. Thread stickout is determined by measuring the distance from the outer face of the nut to the end of the threaded portion of the shank.

3. Install the bolt into a hole on the plate or girder and install the required number of washers and additional spacers as needed between the bearing face of the nut and the underside of the bolt head to produce the thread stickout measured in Step 2 of this procedure.
4. Tighten the nut using a hand wrench to a snug-tight condition. The snug condition shall be the full manual effort applied to the end of a 305 mm long wrench. This applied torque shall not exceed 20 percent of the maximum allowable torque in Table E.

Table E

Maximum Allowable Torque for High-Strength Fastener Assemblies	
Bolt Diameter (inches)	Torque (ft-lbs)
½	145
5/8	285
¾	500
7/8	820
1	1220
1 1/8	1500
1 ¼	2130
1 3/8	2800
1 ½	3700

5. Match-mark the assembly by placing a heavy reference start line on the steel plate or girder which aligns with 1) a mark placed on one corner of the nut and 2) a radial line placed across the flat on the end of the bolt or on the exposed portions of the threads of tension control bolts. Place an additional mark on the outside of the socket that overlays the mark on the nut corner such that this mark will be visible while turning the nut. Make 2 additional small marks on the steel plate or girder, one 1/3 of a turn and one 2/3 of a turn clockwise from the heavy reference start line on the steel plate or girder.
6. Using the torque wrench, tighten the nut to the rotation value listed in Table F. The rotation is measured from the heavy reference line described in Step 5 made after the bolt was snug-tight. A second wrench shall be used to prevent rotation of the bolt head during tightening. Measure and record the moving torque after this rotation has been reached. The torque shall be measured with the nut in motion.

Table F

Nut Rotation Required for Turn-of-Nut Installation[a,b]	
Bolt Length (measured in Step 1)	Required Rotation (turn)
4 bolt diameters or less	1/3
(a) Nut rotation is relative to bolt, regardless of the element (nut or bolt) being turned. For bolts installed by 1/2 turn and less, the tolerance shall be plus or minus 30 degrees. (b) Applicable only to connections in which all material within grip of the bolt is steel.	

7. Tighten the nut further to the 2/3-turn mark as indicated in Table G. The rotation is measured from the heavy reference start line made on the plate or girder when the bolt was snug-tight. Verify that the radial line on the bolt end or on the exposed portions of the threads of tension control bolts is still in alignment with the start line.

Table G

Required Nut Rotation for Rotational Capacity Test	
Bolt Length (measured in Step 1)	Required Rotation (turn)
4 bolt diameters or less	2/3

8. Loosen and remove the nut and examine the threads on both the nut and bolt.

C. Short Bolt Acceptance Criteria:

1. An assembly shall pass the following requirements to be acceptable: 1) the measured moving torque from Step 6 shall be less than or equal to the maximum allowable torque from Table E, 2) the nut shall be able to be removed from the bolt without signs of thread stripping or galling after the required rotation in Step 7 has been achieved, 3) the bolt does not shear from torsion or fail during the test, and 4) the assembly shall not seize before the final rotation in Step 7 is reached. Elongation of the bolt in the threaded region between the bearing face of the nut and the underside of the bolt head will not be considered a failure. Both fastener assemblies tested from one rotational capacity lot shall pass for the rotational capacity lot to be acceptable.

4. Installation Tension Testing and Rotational Capacity Testing After Arrival On The Job Site

Installation tension tests and rotational capacity tests on high-strength fastener assemblies shall be performed by the Contractor prior to acceptance or installation and after arrival of the fastener assemblies on the project site. Installation tension tests and rotational capacity tests shall be performed by Contractor at the job-site, in the presence of the Engineer, on each rotational capacity lot of fastener assemblies.

The requirements of this section do not apply to high-strength cap screws or high-strength bolts used for slip base plates.

Installation tension tests shall be performed on 3 representative fastener assemblies in conformance with the provisions in Section 8, "Installation," of the RCSC Specification. For short bolts, Section 8.2, "Pretensioned Joints," of the RCSC Specification shall be replaced by the "Pre-Installation Testing Procedures," of the "Structural Bolting Handbook," published by the Steel Structures Technology Center, Incorporated.

Contractor shall perform the rotational capacity tests in conformance with the requirements for rotational capacity tests in "Rotational Capacity Testing Prior to Shipment to Job Site" of these special provisions.

At the Contractor's expense, additional installation tension tests, tests required to determine job inspecting torque, and rotational capacity tests shall be performed by the Contractor on each rotational capacity lot, in the presence of the Engineer, if 1) any fastener is not used within 3 months after arrival on the jobsite, 2) fasteners are improperly handled, stored, or subjected to inclement weather prior to final tightening, 3) significant changes are noted in original surface condition of threads, washers, or nut lubricant, or 4) the Contractor's required inspection is not performed within 48 hours after all fasteners in a joint have been tensioned.

Failure of a job-site installation tension test or a rotational capacity test will be cause for rejection of unused fasteners that are part of the rotational capacity lot.

When direct tension indicators are used by Contractor, installation verification tests shall be performed in conformance with Appendix Section X1.4 of ASTM Designation: F959, except that bolts shall be initially tensioned to a value 5 percent greater than the minimum required bolt tension.

5. Surface Preparation

For all bolted connections, the contact surfaces and inside surfaces of bolt holes shall be cleaned and coated before assembly in conformance with the provisions for cleaning and painting structural steel of these technical specifications.

6. Sealing

The perimeter around all direct tension indicator gaps shall be completely sealed with non-silicone type sealing compound conforming to the provisions in Federal Specification TT-S-230, Type II. The sealant shall be gray in color and have a minimum thickness of 1.3 mm. If painting is required, Contractor shall apply the sealing compound prior to painting.

When Contractor uses zinc-coated tension control bolts, the sheared end of each fastener shall be completely sealed with non-silicone type sealing compound conforming to the provisions in Federal Specification TT-S-230, Type II. The sealant shall be gray in color and shall have a minimum thickness of 1.3 mm. The sealant shall be applied to a clean sheared surface on the same day that the splined end is sheared off.

7. Welding

Table 2.2 of AWS D1.5 is superseded by the following table:

Base Metal Thickness of the Thicker Part Joined, mm	Minimum Effective Partial Joint Penetration Groove Weld Size, * mm
Over 6 to 13 inclusive	5
Over 13 to 19 inclusive	6
Over 19 to 38 inclusive	8
Over 38 to 57 inclusive	10
Over 57 to 150 inclusive	13
Over 150	16

* Except the weld size need not exceed the thickness of the thinner part

Dimensional details and workmanship for welded joints in tubular and pipe connections shall conform to the provisions in Part A, "Common Requirements of Nontubular and Tubular Connections," and Part D, "Specific Requirements for Tubular Connections," in Section 2 of AWS D1.1.

The requirement of conformance with AWS D1.5 shall not apply to work conforming to Section 56-1, "Overhead Sign Structures," or Section 86-2.04, "Standards, Steel Pedestals and Posts," of the CSS.

VII. Sign Structures

1. Sign structures and foundations for overhead signs shall conform to the provisions in CSS Section 56-1, "Overhead Sign Structures", and Section VI, Steel Structures of these technical specifications.

Before commencing fabrication of sign structures, the Contractor shall submit 2 sets of working drawings to the Engineer in conformance with the provisions in CSS Section 5-1.02, "Plans and Working Drawings". The working drawings shall include sign panel dimensions, span lengths, post heights, anchorage layouts, proposed splice locations, a snugging and tensioning pattern for anchor bolts and high strength bolted connections, and details for permanent steel anchor bolt templates. The working drawings shall be supplemented with a written quality control program that includes methods, equipment, and personnel necessary to satisfy the requirements specified herein.

Steel bolts not designated on the plans as High-Strength (HS) or stainless steel shall be for general applications and shall conform to the requirements in ASTM Designation: A 307.

A permanent steel template shall be used to maintain the proper anchor bolt spacing.

One top nut, one leveling nut, and 2 washers shall be provided for the upper threaded portion of each anchor bolt.

Flatness of surfaces of: 1) base plates that are to come in contact with concrete, grout, or washers and leveling nuts, and 2) plates in high-strength bolted connections, shall conform to the requirements in ASTM Designation: A 6/A 6M.

No holes shall be made in members unless the holes are shown on the plans or are approved in writing by the Engineer.

Longitudinal seam welds shall have 60 percent minimum penetration, except that within 150 mm of circumferential welds, longitudinal seam welds shall be Complete Joint Penetration (CJP) groove welds. In addition, longitudinal seam welds on structures having telescopic pole segment splices shall be CJP groove welds on the female end for a length on each end equal to the designated slip fit splice length plus 150 mm.

Steel members used for overhead sign structures shall receive Nondestructive Testing (NDT) in conformance with AWS D1.1 and the following:

A.

Weld Location	Weld Type	Minimum Required NDT
Splice welds around the perimeter of tubular sections, poles, and arms.	CJP groove weld with backing ring	100% UT[a] or RT[b]
Longitudinal seam welds	CJP or PJP[c] groove weld	Random 25% MT[d]
Longitudinal seam welds within 150 mm of a circumferential splice.	CJP groove weld	100% UT or RT
Welds attaching base plates, flange plates, or pole or mast arm plates, to poles or arm tubes.	CJP groove weld with backing ring and reinforcing fillet	t> 4.5 mm: 100%UT and MT t< 4.5 mm: 100% MT after root weld pass & final weld pass t = pole or arm thickness
	External (top) fillet weld for socket-type connections	100% MT

[a] ultrasonic testing
[b] radiographic testing
[c] partial joint penetration
[d] magnetic particle testing

B. The acceptance and repair criteria for Ultrasonic Testing (UT) of welded joints where any of the members are less than 8 mm thick or where tubular sections are less than 325 mm in diameter, shall conform to the requirements in AWS D1.1, Section 6.13.3.1. A written procedure approved by the Engineer shall be used when performing this UT. These written procedures shall conform to the requirements in AWS D1.1, Annex K. The acceptance and repair criteria for other welded joints receiving UT shall conform to the requirements in AWS D1.1, Section 6, Table 6.3 for cyclically loaded nontubular connections.

C. The acceptance and repair criteria for radiographic or real time image testing shall conform to the requirements of AWS D1.1 for tensile stress welds.

D. For longitudinal seam welds, the random locations for NDT will be selected by the Engineer. The cover pass shall be ground smooth at the locations to be tested. If repairs are required in a portion of a tested weld, the repaired portion shall receive NDT, and additional NDT shall be performed on untested portions of the weld. The additional NDT shall be performed on 25 percent of that longitudinal seam weld. After this additional NDT is performed, and if more repairs are required, then that entire longitudinal seam weld shall receive NDT.

Circumferential welds and base plate to post welds may be repaired only one time without written permission from the Engineer.

Full compensation for furnishing anchor bolt templates and for testing of welds shall be considered as included in the contract price listed in Appendix B, Bid Form by Contractor per kilogram for furnishing sign structure (truss) and no additional compensation will be allowed.

2. Mounting Hardware

The Contractor shall work with the Changeable Message Sign (CMS) Manufacturer and Open Road Tolling (ORT) System Integrator, who are required to prepare and submit to BATA for review and approval, shop drawings for hardware to mount CMS panels and ORT equipment to sign structures fabricated under this contract.

The Contractor shall be responsible for furnishing the sign structure to allow the mounting hardware for the CMS and ORT equipment to be correctly installed on the sign structure in compliance with the approved shop drawings prepared by the CMS Manufacturer and ORT System Integrator.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract prices listed in Appendix B, Bid Form by Contractor for the various items of work involved and no additional compensation will be allowed.

3. Measurement and Payment

Sign structures of the type or types designated in Appendix B, Bid Form will be paid for by the kilogram for furnish sign structure.

The contract price paid per month for the storage of sign structures of the type or types designated in Appendix B, Bid Form shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all the work involved in storing sign structures, as shown on the plans, as specified in the CSS and these technical specifications, and as directed by the Engineer.

VIII. FURNISH SIGN

1. Signs shall be fabricated, furnished, and delivered, in accordance with details shown on the Plans, the Traffic Sign Specifications, and these technical specifications.

Traffic Sign Specifications for California sign codes are available for review at the Caltrans internet site: http://www.dot.ca.gov/hq/traffops/signtech/signdel/specs.htm.

Traffic Sign Specifications for signs referenced with Federal Manual on Uniform Traffic Control Devices (MUTCD) sign codes can be found in Standard Highway Signs Book, administered by the Federal Highway Administration (FHA), which is available for review at the following Internet website: http://mutcd.fhwa.dot.gov/ser-pubs.htm.

Information on cross-referencing California sign codes with the Federal MUTCD sign codes is available at the Caltans internet site:
http://www.dot.ca.gov/hq/traffops/signtech/signdel/specs.htm

Contractor furnished temporary or permanent signs shall be free from blemishes that may affect the serviceability and detract from the general sign color and appearance when viewing during

daytime and nighttime from a distance of 8 m. The face of each finished sign shall be uniform, flat, smooth, and free of defects, scratches, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front, back, and edges of the sign panels shall be free of router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive over spray and aluminum marks.

2. Quality Control For Signs

The requirements of Quality Control for Signs in this section shall not apply to construction area signs.

No later than 14 days before sign fabrication, the Contractor shall submit a written copy of the quality control plan for signs to the Transportation Laboratory, Materials Engineering and Testing Services (METS), Telephone (916) 227-7291. METS will have 10 days to review the quality control plan. Sign fabrication shall not begin until METS approves the Contractor's quality control plan in writing. The Contractor shall submit to the Engineer at least 3 copies of the approved quality control plan. The quality control plan shall include, but not be limited to the following requirements:

1. Identification of the party responsible for quality control of signs,
2. Basis of acceptance for incoming raw materials at the fabrication facility,
3. Type, method and frequency of quality control testing at the fabrication facility,
4. List (by manufacturer and product name) of process colors, protective overlay film, retroreflective sheeting and black non-reflective film,
5. Recommended cleaning procedure for each product, and
6. Method of packaging, transport and storage for signs.

No legend shall be installed at the project site. Legend shall include letters, numerals, tildes, bars, arrows, route shields, symbols, logos, borders, artwork, and miscellaneous characters. The style, font, size, and spacing of the legend shall conform to the Standard Alphabets published in the Federal Highway Administration (FHWA) Standard Highway Signs Book. The legend shall be oriented in the same direction in accordance with the manufacturer’s orientation marks found on the retroreflective sheeting.

On multiple panel signs, legend shall be placed across joints without affecting the size, shape, spacing, and appearance of the legend. Background and legend shall be wrapped around interior edges of formed panel signs as shown on plans to prevent delamination.

Contractor shall place the following notation on the lower right side of the back of each sign where the notation will not be blocked by the sign post or frame:

1. PROPERTY OF STATE OF CALIFORNIA,
2. Name of the sign manufacturer,
3. Month and year of fabrication,
4. Type of retroreflective sheeting, and

5. Manufacturer’s identification and lot number of retroreflective sheeting.

Contractor shall apply the above notation directly to the aluminum sign panels in 6-mm upper case letters and numerals by die-stamp and applied by similar method to the fiberglass reinforced plastic signs. Painting, screening, or engraving the notation will not be allowed. The notation shall be applied without damaging the finish of the sign.

Signs with a protective overlay film shall be marked with a dot of 10 mm diameter. The dot placed on white border shall be black while the dot placed on black border shall be white. The dot shall be placed on the lower border of the sign before application of the protective overlay film and shall not be placed over the legend and bolt holes. The application method and exact location of the dot shall be determined by the manufacturer of the signs.

For sign panels that have a minor dimension of 1220 mm or less, no splice will be allowed in the retroreflective sheet except for the splice produced during the manufacturing of the retroreflective sheeting. For sign panels that have a minor dimension greater than 1220 mm, only one horizontal splice will be allowed in the retroreflective sheeting.

Unless specified by the manufacturer of the retroreflective sheeting, splices in retroreflective sheeting shall overlap by a minimum of 25 mm. Splices shall not be placed within 50 mm from edges of the panels. Except at the horizontal borders, the splices shall overlap in the direction from top to bottom of the sign to prevent moisture penetration. The retroreflective sheeting at the overlap shall not exhibit a color difference under the incident and reflected light.

Signs exhibiting a significant color difference between daytime and nighttime shall be replaced immediately at the Contractor's sole expense.

Repairing sign panels will not be allowed except when approved by the Engineer.

The Engineer, or his designee, will inspect signs at the Contractor’s facility and delivery location, and in accordance with Section 6, "Control of Materials," of the CSS. The Engineer will inspect signs for damage and defects before and after installation.

Regardless of kind, size, type, or whether delivered by the Contractor or by a common carrier, signs shall be protected by thorough wrapping, tarping, or other methods to ensure that signs are not damaged by weather conditions and during transit. Signs shall be dry during transit and shipped on palettes, in crates, or tier racks. Padding and protective materials shall be placed between signs as appropriate. Finished sign panels shall be transported and stored by method that protects the face of signs from damage. The Contractor shall replace wet, damaged, and defective signs at the Contractor's sole expense. **The bridge site that sign panels will eventually be delivered to for installation by others, as specified on the plans, shall be clearly and indelibly marked on the outside surface of the protective wrapping for each sign panel. Signs shall be organized by bridge site for delivery and storage purposes.**

Contractor shall store signs in dry environment at all times. Signs shall not rest directly on the ground or become wet during storage. Signs, whether stored indoor or outdoor, shall be in free

standing. When stored outdoor, signs shall be placed at a minimum spacing of 100 mm apart. In areas of high heat and humidity signs shall be stored in enclosed climate-controlled trailers or containers. Signs shall be stored indoor if duration of the storage will exceed 30 days.

Screen processed signs shall be protected, transported and stored as recommended by the manufacturer of the retroreflective sheeting.

When requested, the Contractor shall provide the Engineer test samples of signs and materials used at various stages of production. Sign samples shall be 300 mm x 300 mm in size with applied background, letter or numeral, and border strip.

The Contractor shall assume the costs and responsibilities resulting from the use of patented materials, equipment, devices, and processes for the Contractor's work.

3. Sheet Aluminum

Alloy and temper designations for sheet aluminum shall be in accordance with ASTM Designation: B209.

Contractor shall furnish the Engineer a Certificate of Compliance in accordance with CSS Section 6-1.07, "Certificates of Compliance" for the sheet aluminum.

Sheet aluminum shall be pretreated in accordance to ASTM Designation: B449. Surface of the sheet aluminum shall be cleaned, deoxidized, and coated with a light and tightly adherent chromate conversion coating free of powdery residue. The conversion coating shall be Class 2 with a mass between 108 mg/m^2 and 377 mg/m^2, and an average mass of 269 mg/m^2. Following the cleaning and coating process, the sheet aluminum shall be protected from exposure to grease, oils, dust, and contaminants.

Sheet aluminum shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication.

Base plate for standard route marker shall be die cut.

4. Retroreflective Sheeting

The Contractor shall furnish retroreflective sheeting for sign background and legend in accordance with ASTM Designation: D4956 and Section IV, Prequalified and Tested Signing and Delineation Materials of these technical specifications.

Retroreflective sheeting shall be applied to sign panels as recommended by the retroreflective sheeting manufacturer without stretching, tearing, and damage.

Class 1, 3, or 4 adhesive backing shall be used for Type II, III, IV, VII, VIII, and IX retroreflective sheeting. Class 2 adhesive backing may also be used for Type II retroreflective sheeting. The adhesive backing shall be pressure sensitive and fungus resistant.

When the color of the retroreflective sheeting determined from instrumental testing is in dispute, the Engineer's visual test will govern.

5. Process Color and Film

The Contractor shall furnish and apply screened process color, non-reflective opaque black film, and protective overlay film of the type, kind, and product that are approved by the manufacturer of the retroreflective sheeting.

The Contractor shall furnish the Engineer a Certificate of Compliance in accordance with Section 6-1.07, "Certificates of Compliance" of the CSS for the screened process color, non-reflective opaque black film, and protective overlay film.

The surface of the screened process color shall be flat and smooth. When the screened process colors determined from the instrumental testing in accordance to ASTM Designation: D4956 are in dispute, the Engineer's visual test will govern.

The Contractor shall provide patterns, layouts, and set-ups necessary for the screened process.

The Contractor may use green, red, blue, and brown reverse-screened process colors for background and non-reflective opaque black film or black-screened process color for legend. The coefficient of retroreflection for reverse-screened process colors on white retroreflective sheeting shall not be less than 70 percent of the coefficient of retroreflection specified in ASTM Designation: D4956.

The screened process colors and non-reflective opaque black film shall have the same outdoor weatherability as that of the retroreflective sheeting.

After curing, screened process colors shall withstand removal when tested by applying 3M Company Scotch Brand Cellophane Tape No. 600 or equivalent tape over the color and removing with one quick motion at 90°angle.

6. Single Sheet Aluminum Signs

Contractor shall fabricate and furnish single sheet aluminum signs with or without frame, and in accordance with Section VIII.3 Sheet Aluminum of these technical specifications. Single sheet aluminum signs shall be fabricated from sheet aluminum alloy 6061-T6 or 5052-H38.

Single Sheet aluminum signs shall not have a vertical splice in the sheet aluminum. For signs with depth greater than 1220 mm, one horizontal splice will be allowed in the sheet aluminum.

Framing for single sheet aluminum sign shall consist of aluminum channel or rectangular aluminum tubing. The framing shall have a length tolerance of $\pm$3 mm. The face sheet shall be affixed to the frame with rivets of 5-mm diameter. Rivets shall be placed within the web of channels and shall not be placed less than 13 mm from edges of the sign panels. Rivets shall be

made of aluminum alloy 5052 and shall be anodized or treated with conversion coating to prevent corrosion. The exposed portion of rivets on the face of signs shall be the same color as the background or legend where the rivets are placed.

Finished signs shall be flat within a tolerance of ±3 mm per meter when measured across the plane of the sign in all directions. The finished signs shall have an overall tolerance within ±3 mm of the detailed dimensions.

Aluminum channels or rectangular aluminum tubings shall be welded together with the inert gas shielded-arc welding process using E4043 aluminum electrode filler wires as shown on the plans. Width of the filler shall be equal to wall thickness of smallest welded channel or tubing.

7. Fiberglass Reinforced Plastic Panel Signs

Contractor shall furnish fiberglass reinforced plastic panel sign in accordance with ASTM Designation: D3841 and "Prequalified and Tested Signing and Delineation Materials" of these technical specifications.

Fiberglass reinforced plastic shall be acrylic modified and ultraviolet stabilized for outdoor weatherability. The plastic shall contain additives designed to suppress fire ignition and flame propagation. When tested in accordance with the requirements in the ASTM Designation: D635, the extent of burning shall not exceed 25 mm.

Fiberglass reinforced plastic shall be stabilized to prevent the release solvents and monomers. The front and back surfaces of the laminate shall be clean and free of constituents and releasing agents that can interfere with the bonding of retroreflective sheeting.

The fiberglass reinforced plastic panel sign shall be weather resistant Grade II thermoset polyester laminate.

The fiberglass reinforced plastic panels shall be minimum 3.4 mm thick. Finished fiberglass reinforced plastic panel signs shall be flat within a tolerance of ±3 mm per meter when measured across the plane of the sign in all directions. The finished signs shall have an overall tolerance within ±3 mm of the specified dimensions.

Color of fiberglass reinforced plastic panels shall be uniform gray within Munsel range of N7.5 to N8.5.

Fiberglass reinforced plastic panels shall be cut from a single piece of laminate. Bolt holes shall be predrilled. The predrilled bolt holes, panel edges, and the front and back surfaces of the panels shall be true and smooth. The panel surfaces shall be free of visible cracks, pinholes, foreign inclusions, warping and wrinkles that can affect performance and serviceability.

8. Laminated Panel Signs

Laminated panel signs shall consist of two sheet aluminum laminated to a honeycomb core and extruded aluminum frame to produce flat and rigid panels of 25.4-mm or 63.5-mm nominal thickness.

The face of laminated panel signs shall be fabricated from sheet aluminum alloy 6061-T6 or 5052-H32 of 1.6-mm thickness. The back of laminated panel signs shall be fabricated from sheet aluminum alloy 3003-H14 of 1.0-mm thickness. The Contractor shall furnish sheet aluminum as provided in Section VIII.3, Sheet Aluminum of these technical specifications.

The core material shall be phenolic impregnated kraft paper honeycomb and fungus resistant in accordance to Military Specification MIL-D-5272. The honeycomb cell size shall be 13 mm. Weight of the kraft paper shall be 300 g/m^2 and impregnated minimum 18 percent by weight.

A laminating adhesive that can produce a resilient oil and water-resistant bond shall be used to adhere the extruded aluminum frame and the honeycomb core to the sheet aluminum. Edge and interior delamination occur when a 0.25-mm thick feeler gauge of 13 mm in length can be inserted into a depth of more than 13 mm between the extruded aluminum frame and the sheet aluminum. Laminated panel sign with delamination will be rejected.

Laminated panels shall be able to resist a wind load of 161 kg/m^2 for the following simple span lengths with a bending safety factor of 1.25:

Panel Type	Nominal Panel Thickness	Simple Span Length
A	25.4 mm	2.7 m
B	25.4 mm	2.7 m
	63.5 mm	4.42 m
H	63.5 mm	4.42 m

The tensile strength of laminated panels shall be at least 138 kPa when tested in accordance with the following modification and with ASTM Designations: C297 and C481, Cycle B after aging. Instead of spraying with hot water, the specimen shall be totally immersed in 70^oC hot water. When requested by the Engineer or the Caltrans Transportation Laboratory, at least one test sample of 300 mm x 300 mm in size shall be taken for every 186 m^2 of the panel production cycle or of the total factory production order, whichever occurs first.

Rivets used to secure the sheet aluminum to the perimeter frame shall be fabricated from aluminum alloy 5052 and annodized or treated with a conversion coating to prevent corrosion. Size of the aluminum rivets shall be 5 mm in diameter and placed at the corners of the laminated panels. Color of the exposed portion of the rivets shall be the same color as the sign background or legend on which the rivets are placed. Rivets or stainless steel screws shall be placed in holes drilled during fabrication in the perimeter frame.

On laminated multiple panel signs, a closure H-Section shall be placed in the top channel of the bottom panel. Perimeter frame of adjoining panel shall accommodate the closure H-Section in the closed position.

For signs with a depth of 1524 mm or less, the laminated panels shall be fabricated with no horizontal joints, splices or seams. For signs with a depth of greater than 1524 mm, the laminated panels may be fabricated in two panels.

The face of laminated panels shall be flat with a tolerance of ±8 mm per meter when measured across the plane of each panel in all directions. Where laminated panels adjoin, the gap between adjoining edges from one corner to the other corner shall not deviate by more than 1 mm. Non-adjoining edges from one corner to the other corner shall not deviate by more than 3 mm from a straight plane. The front and back sheet aluminum shall be flush with the perimeter frame. The panel edges shall be smooth.

Laminated panel signs shall be within +3 mm or -13 mm of the detailed dimensions. The difference in length between adjoining panels of multiple panel signs shall not be greater than 13 mm.

Roadside laminated panel signs shall be Type B or Type H. Type B panels shall have a nominal thickness of 25.4 mm or 63.5 mm. Type H panels shall have a nominal thickness of 63.5 mm.

The perimeter frame of Type B panels shall consist of extruded channel edges. The interior and exterior sides of the channels, except the sides touching the face and back sheet aluminum, shall be welded at the joint. Sealant shall be placed at the corners of the perimeter frame to prevent moisture penetration.

Each side of the vertical tube spacers of Type B panels shall be welded to the perimeter frame, except the sides touching the front and back sheet aluminum.

The perimeter frame of Type H panels shall consist of extruded channel edges on the vertical sides and consist of extruded tube channel edges on the horizontal sides. The perimeter frame shall be connected by self-tapping hex head stainless steel screws. Sealant shall be placed at the corners of the perimeter frame to prevent moisture penetration.

For Type H panels with a length of 5182 mm or longer, centerline panel tube shall be placed along the horizontal centerline of the panel. The ends of the centerline panel tube shall be firmly affixed to the perimeter frame.

Each side of the vertical tube spacers of Type H panels shall be welded to the perimeter frame and the centerline panel tube, except the sides touching the front and back sheet aluminum.

The Contractor shall furnish mounting hardware for roadside laminated panel signs, such as closure H-sections, lags, bolts, nuts, and washers.

Overhead laminated panel signs shall be Type A and have a nominal thickness of 25.4 mm.

For overhead laminated signs with a length of 7315 mm or less, the laminated panels shall be fabricated with no vertical joints, splices or seams. For signs with a length of greater than

7315 mm, the length of each adjoining panel shall be as determined by the Engineer or as shown on the plans.

The perimeter frame of Type A overhead laminated panels shall be connected by self-tapping hex head stainless steel screws. Sealant shall be placed at the corners of the perimeter frame to prevent moisture penetration. The perimeter frame of Type A panels shall consist of extruded channel edges on the vertical sides and consist of modified "H" section extrusion on the horizontal sides. The modified "H" section extrusion acts as an integral retainer track for affixing the bolts to provide blind fastening of panels to the structure support.

The Contractor shall furnish mounting hardware for overhead laminated panel signs, such as closure H-sections, clamps, bolts, nuts, and washers. The clamps shall be cast aluminum alloy with a minimum tensile strength of 170 MPa. Bolt torque used for installing clamps shall not exceed 12 N-m.

9. Formed Panel Signs

Formed panel signs shall be fabricated from one continuous sheet aluminum alloy 5052-H32 of 1.6-mm thickness. The Contractor shall furnish sheet aluminum as provided in "Sheet Aluminum" of these special provisions.

The aluminum frame shall be affixed to the panel with aluminum rivets through the face of the sign panels. Color of the exposed portion of the rivets shall be the same color as the sign background or legend on which the rivets are placed.

The face of finished formed panel sign shall be flat with a tolerance of 10 mm per meter when measured across the plane of each panel in all directions.

The Contractor shall furnish mounting hardware for roadside and overhead formed panel signs. Hardware for the overhead formed panel signs shall include bolts, nuts, and washers.

The length and depth of the overhead formed panel signs shall be within ±2 mm of the detailed dimension.

The formed edges of the overhead panel signs shall be square. The mounting holes shall be straight and perpendicular to the front and back surfaces of the formed edges at the spacing shown on the plans. Holes that are improperly spaced and placed at the wrong angle will be rejected.

10. Measurement and Payment

Furnishing signs (except for construction area signs) will be measured by the square meter and the quantity to be paid for will be the total area, in square meters, of the sign panel types installed in place.

The contract price listed by Contractor per square meter for furnishing sign of the types specified in Appendix B, Bid Form shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in fabricating, furnishing, storing and delivering the signs, including removable sign panel frame and fastening hardware, as shown on the plans, as specified in the CSS and these technical specifications, and as directed by the Engineer.

Full compensation for furnishing protective overlay on signs shall be considered as included in the contract price paid per square meter for furnish sign of the various types and no separate payment will be made therefor.

IX. CONSTRUCTION AREA SIGNS

Construction area signs for temporary traffic control shall be furnished in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices," of the CSS and these technical specifications.

Attention is directed to Section VIII, Furnish Sign of these technical specifications.
Attention is directed to the provisions in Section IV, Prequalified and Tested Signing and Delineation Materials of these technical specifications. Type II retroreflective sheeting shall not be used on construction area sign panels. Type III, IV, VII, VIII, or IX retroreflective sheeting shall be used for stationary mounted construction area sign panels.

Unless otherwise shown on the Plans or specified in these technical specifications, the color of construction area warning and guide signs shall have black legend and border on orange background, except W10-1 or W47(CA) (Highway-Rail Grade Crossing Advance Warning) sign shall have black legend and border on yellow background. Orange background on construction area signs shall be fluorescent orange.

2. Measurement and Payment

Construction area signs will be measured by the unit from actual count. The contract unit price listed by Contractor in Appendix B, Bid Form for construction area signs shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in fabricating, furnishing, storing and delivering the signs, as shown on the Pans, as specified in these technical specifications, and as directed by the Engineer.

X. DELIVERY, UNLOADING AND STORAGE

1. Contractor shall be completely responsible for all loading, delivery, unloading and storage activities required for the completion of work under this contract. The contractor shall supply a location for storage of material procured for this project. The location for the storage of the material under this contract shall be within 50 miles of the BATA office. Any material, if stocked piled and stored separately from other items to be procured by the contractor, shall be within a one mile radius of each other. The location of storage facility shall be submitted, in writing, to BATA for approval. Storage of material shall be in a secured location or area

designated for BATA material only and shall not be intermixed with any other items except those as identified as a part of this contract. The designated storage area shall be large enough to safely and securely store and protect material. All additional devices necessary to safely store and or protect material shall be furnished and paid for by the Contractor. Additional items designated by BATA for such safe storage shall be at the expense of the Contractor.

Material shall be stored in a manner, which will allow for immediate access and ability to inspect without any visual impediment of material. In addition, storage space shall have sufficient area to allow necessary equipment to safely load designated material for transport from storage facility by Agent of BATA. Contractor shall be fully responsible for all additional costs associated with material damage during storage at identified storage location. BATA or BATA representatives thereof shall have immediate access to stored material upon verbal or written request. No material shall be moved at storage location without prior authorization of BATA. A separate agent of BATA shall be requested to pick up material from storage location. At that time, such representative will be disclosed by BATA and will be required to sign an "acceptance of working material" form indicating such material is in good working condition and is not damaged.

Any material found to be damaged or non functional, shall subject Contractor to the terms specified in Section III., Special Conditions, D., Acceptance by BATA and F, Liquidated Damages of this IFB. Contractor shall be required to allow sufficient area and necessary equipment to safely load designated material for transport from storage facility by Agent of BATA.

2.Payment
Contractor shall be entitled to no payment for storage of material prior to the Time Limit for Delivery specified in Section II Schedule of this *Appendix A.* Contractor's entitlement for payment for storage shall begin following such Time Limit. All such storage costs (includes delivery to storage, unloading and storage) for this period shall be included in the price listed by Contractor in the Appendix *B* Bid Form and no additional compensation will be allowed therefor.

The eight weeks specified in the Appendix B Bid Form is BATA's estimate of the time that may be required to store piles. However, bidders are cautioned to use this estimate for bidding purposes only. Actual storage time may be less or more and BATA shall pay per week only for the amount of time that piles are actually stored. BATA reserves the right to extend the duration of storage specified in Appendix B, Bid Form without adjustment in unit price.

XI. STANDARD PLANS LIST (2004)

The Standard Plan sheets applicable to this contract include, but are not limited to, those indicated below. Applicable Revised Standard Plans (RSP) and New Standard Plans (NSP) indicated below are included in the project plans as individual Standard Plan sheets.

GENERAL ROAD WORK (Miscellaneous)

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)

ROADSIDE SIGNS

RS1	ROADSIDE SIGNS, TYPICAL INSTALLATION DETAILS NO. 1
RS2	ROADSIDE SIGNS - WOOD POST, TYPICAL INSTALLATION DETAILS NO. 2
RS3	ROADSIDE SIGNS - LAMINATED WOOD BOX POST TYPICAL INSTALLATION DETAILS NO. 3

OVERHEAD SIGNS

RSP S1	OVERHEAD SIGNS – TRUSS, INSTRUCTIONS AND EXAMPLES
RSP S2	OVERHEAD SIGNS – TRUSS, SINGLE POST TYPE – POST TYPE II THRU IX
RSP S3	OVERHEAD SIGNS – TRUSS, SINGLE POST TYPE – BASE PLATE AND ANCHORAGE DETAILS
RSP S4	OVERHEAD SIGNS – TRUSS, SINGLE POST TYPE – STRUCTURAL FRAME MEMBERS DETAILS NO. 1
S5	OVERHEAD SIGNS – TRUSS, SINGLE POST TYPE – STRUCTURAL FRAME MEMBERS DETAILS NO. 2
RSP S6	OVERHEAD SIGNS – TRUSS, GUSSET PLATE DETAILS
RSP S7	OVERHEAD SIGNS – TRUSS, SINGLE POST TYPE – SQUARE PEDESTAL FOUNDATION
RSP S8	OVERHEAD SIGNS – TRUSS, SINGLE POST TYPE – ROUND PEDESTAL FOUNDATION
RSP S9	OVERHEAD SIGNS – TRUSS, TWO POST TYPE – POST TYPES I-S THRU VII-S
RSP S10	OVERHEAD SIGNS – TRUSS, TWO POST TYPE – BASE PLATE AND ANCHORAGE DETAILS
RSP S11	OVERHEAD SIGNS – TRUSS, TWO POST TYPE – STRUCTURAL FRAME MEMBERS
RSP S12	OVERHEAD SIGNS – TRUSS, STRUCTURAL FRAME DETAILS
RSP S13	OVERHEAD SIGNS – TRUSS, FRAME JUNCTURE DETAILS
RSP S14	OVERHEAD SIGNS – TRUSS, TWO POST TYPE – SQUARE PEDESTAL FOUNDATION
RSP S15	OVERHEAD SIGNS – TRUSS, TWO POST TYPE – ROUND PEDESTAL FOUNDATION
RSP S16	OVERHEAD SIGNS – WALKWAY DETAILS NO. 1
RSP S17	OVERHEAD SIGNS – WALKWAY DETAILS NO. 2
NSP S17A	OVERHEAD SIGNS – WALKWAY DETAILS NO. 3
RSP S18	OVERHEAD SIGNS – WALKWAY SAFETY RAILING DETAILS

APPENDIX B - BID FORM

(THE CONTRACT PRICE PAID SHALL THE CONTRACT PRICE PAID SHALL INCLUDE THE COSTS OF LABOR, MATERIALS, EQUIPMENT, TOOLS, MACHINERY, UTILITIES, TRANSPORTATION, LICENSE OR PERMIT FEES, STORAGE FEES, TESTING AND ALL APPLICABLE SURCHARGES SUCH AS TAXES, INSURANCE, OVERHEAD AND PROFIT TO PROVIDE THE SIGN STRUCTURES AND ROAD SIDE SIGN PANELS AND STORAGE SERVICES SPECIFIED IN APPENDIX A, TECHNICAL SPECIFICATIONS).

Bidder's Name_____

ITEM NO.	REFERENCE	DESCRIPTION	EST. QUANT	UNITS	UNIT PRICE	TOTAL
FASTRAK® STRATEGIC PLAN IMPROVEMENT PROJECT						
1.	SMB-C	FURNISH SIGN STRUCTURE (TRUSS)	14090	KG	$	$
2.	SMB-D	FURNISH SIGN STRUCTURE (TRUSS)	12450	KG	$	$
3.	BB-B	FURNISH SIGN STRUCTURE (TRUSS)	19690	KG	$	$
4.	BB-A	FURNISH SIGN STRUCTURE (TRUSS)	25970	KG	$	$
5.	CB-C	FURNISH SIGN STRUCTURE (TRUSS)	13870	KG	$	$
6.	RB-E	FURNISH SIGN STRUCTURE (TRUSS)	25880	KG	$	$
7.	RB-D	FURNISH SIGN STRUCTURE (TRUSS)	9110	KG	$	$
8.	DB-A	FURNISH SIGN STRUCTURE (TRUSS)	13,460	KG	$	$
9.	DB-B	FURNISH SIGN STRUCTURE (TRUSS)	11,480	KG	$	$
10.	BM-D	FURNISH SIGN STRUCTURE (TRUSS)	9110	KG	$	$
11.	BM-ORT	FURNISH SIGN STRUCTURE (TRUSS)	26370	KG	$	$
Sub-Total						$
12.		FURNISH SIGN (Single Sheet Unframed Aluminum – 1.6mm)	33	M2	$	$
13.		FURNISH SIGN (Single Sheet Unframed	75	M2	$	$

					Bidder's Name_____	
ITEM NO.	**REFERENCE**	**DESCRIPTION**	**EST. QUANT**	**UNITS**	**UNIT PRICE**	**TOTAL**
		Aluminum – 2.0mm)				
14.		FURNISH SIGN (Single Sheet Framed Aluminum – 1.6mm)	25	M2	$	$
15.		FURNISH SIGN (Single Sheet Framed Aluminum – 2.0mm)	33	M2	$	$
16.		FURNISH SIGN (Laminated Type B – 25.4mm)	123	M2	$	$
17.		FURNISH SIGN (Overhead formed with RSPF)	168	M2	$	$
18.		CONSTRUCTION AREA SIGNS	93	EA	$	$
19.		SIGN STORAGE	8	WEEK	$	$
Sub –Total						$
					Bid Total	$

APPENDIX B - BID FORM (continued)

Minimum Qualifications:

Check either yes or no.	**Yes**	**No**
Has your company successfully furnished sign structures under a minimum of three (3) other commercial contracts similar in size and scope to the specifications listed in this IFB, exceeding one hundred thousand dollars ($100,000)?		

Signature of Authorizing Official:

Name of Proposing Company	
Address	
Address	
Phone Number	
Fax Number	
E-Mail	
License Number and Type	
Representative Name and Title	
Name of Authorizing Official	
Authorized Signature	

APPENDIX C - CONTRACTOR'S REFERENCE FORM

Name of Bidding Company _____

Representative Name & Title _____

Phone Number _____

References must not be relatives of the Contractor's representative or owners. The references given must be for clients with contracts of a similar work scope to this project providing sign structures and road side sign panels that conform to all applicable sections of the California Department of Transportation Standard Specifications, and Standard Plans.

Contractor's References (Provide at least 3)

1. Client's Name

Contact Person

Address

City & Zip Code

Phone Number & E-Mail

2. Client's Name

Contact Person

Address

City & Zip Code

Phone Number & E-Mail

3. Client's Name

Contact Person

Address

City & Zip Code

Phone Number & E-Mail

APPENDIX D - GENERAL CONDITIONS FOR BATA PURCHASE ORDERS

1. DEFINITIONS

a. MTC. Includes the Metropolitan Transportation Commission, the Metropolitan Transportation Commission Service Authority for Freeways and Expressways, or the Bay Area Transportation Authority.

b. Supplier. The individual, firm, partnership, corporation or combination thereof to whom a Purchase Order is mailed or otherwise furnished by BATA.

c. Contract. The legal agreement between BATA and the Supplier, which includes the terms of any written solicitation of Bids or Proposals and any deviation from the written specifications expressly accepted by BATA; the Supplier's bid, proposal, or offer; and all terms and conditions set forth in or attached to this Purchase Order. In the event of a conflict between one or more provisions of the Contract, the more specific or stringent provision with respect to Supplier's performance of the work shall apply.

2. ACCEPTANCE OF OFFER

This purchase order constitutes BATA's acceptance of Supplier's offer and becomes a binding contract, as defined above, when it is signed by BATA and mailed to Supplier. No revisions to or assignments of this order shall be valid unless in writing and signed by an authorized representative of BATA.

3. PERFORMANCE OF WORK

Supplier shall accomplish all the work and furnish all materials necessary for the completion of the work in a good, workmanlike and thorough manner and to the satisfaction of BATA, in accordance with the Contract.

4. CONTRACT PRICE

The firm fixed price(s) or other maximum payment set out in this purchase order, which includes full compensation to Supplier for performing all work required by the Contract, including all applicable federal, state and local taxes.

5. VARIATION IN QUANTITY, QUALITY OR PERFORMANCE

Any variation in the quantity, quality or performance of any item or service called for by this order shall be grounds for termination by default by BATA, as provided in 8a, unless approved by BATA in writing.

6. PACKAGING AND CRATING

All items shall be packed by Supplier in suitable containers for protection in shipment and storage. Prices set forth in this order include all charges for Supplier's packing, crating and marking for transportation to f.o.b. point.

7 INSPECTION AND ACCEPTANCE

Inspection and acceptance will be at destination, unless otherwise provided. Until delivery and acceptance, and after any rejections, risk of loss will be on the Supplier.

8. TERMINATION

a. If Supplier fails to comply with any of the provisions of the Contract, or in the event Supplier becomes the subject of a proceeding under state or federal law for relief of creditors, or if Supplier makes an assignment for the benefit of creditors, BATA shall have the right to hold Supplier in default and cancel this order in whole or in part. In each event, BATA may obtain the items covered by the cancelled order from another Supplier and, if Supplier was selected as a result of a competitive procurement process, Supplier shall reimburse BATA for the excess cost to BATA, if any.

b. Without affecting its right to cancel this order under paragraph (a) above, BATA may terminate this order in whole or in part prior to shipment of goods or provision of services at no cost by providing written notice to the Supplier. In such event, BATA shall reimburse Supplier for non-recoverable costs incurred to date, not to exceed the Contract Price.

9. SCHEDULE

Unless otherwise agreed, material commitments and production arrangements should not be made by Supplier in excess of the amount or in advance of the time necessary to meet the specified delivery schedule. Time is of the essence in filling this order, and it is Supplier's responsibility to comply with BATA's delivery directions and/or schedule. Failure to deliver any item or provide any service called for by the contract within the time called for shall be grounds for termination for default as provided in 8.a.

10. INDEMNIFICATION

Supplier shall indemnify and hold harmless BATA and its officers, agents and employees from and against all claims, demands, suits, loss damage, injury and liability, including any and all costs and expenses incurred in connection therewith, however caused, resulting from, arising out of or in any way connected with Supplier's performance of the Contract, including delivery of materials or equipment to BATA at the time and point of delivery indicated when delivery is an obligation of Supplier under the Contract.

11. INDEPENDENT CONTRACTOR

Supplier is an independent contractor and not an employee or agent of BATA.

12. PAYMENT

Supplier shall submit an invoice to BATA within thirty days after completion of work, unless otherwise specified in purchase order. BATA will pay invoices no later than thirty (30) days after their receipt conditioned upon approval of work done and amount billed. Invoices shall be made in writing and delivered or mailed to BATA as follows: Accounting Section, BATA, Joseph P. Bort MetroCenter, 101 Eighth Street, Oakland, CA 94607-4700.

APPENDIX E-1 BIDDER'S BOND SINGLE SURETY

KNOW ALL MEN BY THESE PRESENTS. That we_____as PRINCIPAL, and _____as SURETY, are held and firmly bound unto the Bay Area Toll Authority, hereinafter called BATA, in the penal sum of TEN PER CENT OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to BATA, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of

$ _____

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the above-mentioned bid to BATA, for certain work and services described as follows, for which bids are to be opened on _____
(insert date of Bid opening)

For _____
(copy here the exact description of the work; including location, as it appears on the Bid)

Principal, if awarded the contract, and, within the time and manner required under the specifications, enters into a written contract by accepting BATA's signed purchase order, in accordance with the bid, and files the two bonds with BATA, one to guarantee faithful performance and the other to guarantee payment for labor and materials, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

In the event suit is brought upon this bond by BATA and judgment is recovered, the surety shall pay all costs incurred by BATA in such suit, including a reasonable attorney's fee to be fixed by the court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____, 2006.

Principal

_____

_____

_____ (SEAL)

Surety

_____

_____

_____ (SEAL)

(Note: Signatures of those executing for the surety must be notarized.)

APPENDIX E-2 BIDDER'S BOND FORM MULTIPLE SURETY

KNOW ALL MEN BY THESE PRESENTS. That we _____ as PRINCIPAL, and the undersigned corporations as Sureties, are held and firmly bound unto the Bay Area Toll Authority , hereinafter called BATA, in the penal sum of TEN PER CENT OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to BATA, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents, provided that we, the Sureties, bind ourselves in such sum jointly and severally as well as severally only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself jointly and severally with the Principal for the payment of such sum only as appears opposite its name in the schedule hereinafter set forth.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the above-mentioned bid to BATA, for certain work and services specifically described as follows, for which bids are to be opened on _____
(insert date of Bid opening)

For _____
(copy here the exact description of the work; including location, as it appears on the Bid)

NOW, THEREFORE, If the aforesaid Principal is awarded the contract, and, within the time and manner required under the specifications, enters into a written contract by accepting BATA's signed purchase order, in accordance with the bid, and files the two bonds with BATA, one to guarantee faithful performance and the other to guarantee payment for labor and materials, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

In the event suit is brought upon this bond by BATA and judgment is recovered, the sureties shall pay all cost incurred by BATA in such suit, including a reasonable attorney's fee to be fixed by the court.

The schedule of sums for the payment of which each surety is jointly and severally bound with the Principal as hereinabove set forth, is as follows:

Surety	Name and State of Incorporation	Limit of Liability

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____, 2006.

[SEAL]

_____
Principal

_____
Surety

By _____

[SEAL]

_____
Principal

_____
Surety

By _____

[SEAL]

_____
Principal

_____
Surety

By _____

(Note: Signatures of those executing for the surety must be notarized.)

APPENDIX F - PAYMENT BOND TO ACCOMPANY CONTRACT

KNOW ALL MEN BY THESE PRESENTS

THAT WHEREAS, the Bay Area Toll Authority has awarded to

_____

_____
as Principal, hereinafter designated as the "Contractor," a contract for the work described as follows:

AND WHEREAS, Contractor is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics or material suppliers employed on work under said contract as provided by law;

NOW, THEREFORE, We the undersigned Contractor and Surety are held and firmly bound unto the Bay Area Toll Authority in the sum of dollars _____ ($_____), said sum being 100% of the estimated amount payable by the said the Bay Area Toll Authority under the terms of the contract, for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly and by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,
That if Contractor, his or its heirs, executors, administrators, successors, assigns or subcontractors shall fail to pay any of the persons named in Section 3181 of the Civil Code, amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor pursuant to Section 13020 of the Unemployment Insurance Code with respect to the work and labor, that the surety hereon will pay for the same, in an amount not exceeding the sum specified in this bond; otherwise, the above obligation shall be void. In case suit is brought upon this bond, the said surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the Civil Code, so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____ A.D., 2006.

_____
Contractor

_____
Surety

[SEAL] _____
Attorney in Fact

APPENDIX G PERFORMANCE BOND TO ACCOMPANY CONTRACT

KNOW ALL MEN BY THESE PRESENTS

THAT WHEREAS, the Bay Area Toll Authority ("BATA") has awarded to

_____

as principal, hereinafter designated as the "Contractor," a contract for the work described as follows:

AND WHEREAS, Contractor is required to furnish a bond in connection with said contract guaranteeing the faithful performance thereof;

NOW, THEREFORE, We, the undersigned Contractor and Surety, are held and firmly bound unto BATA, in the sum of _____dollars ($_____), to be paid to BATA or its certain attorney, its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the foregoing contract and any alteration thereof made, as therein provided, on his or their part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless BATA, its officers and agents, as therein stipulated, then this obligation shall become and be null and void; otherwise, it shall be and remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____ A.D., 2006.

_____
Contractor

_____
Surety

[SEAL] _____
Attorney in Fact

APPENDIX H SIGN STRUCTURE AND ROADSIDE SIGN PANEL PLANS